

**Study on**

**Assessment of the Competitiveness of the Syrian  
Agriculture: an application to selected  
representative value chains.**

Technical Report

Frédéric Lançon

International cooperation center of  
Agricultural research for development- CIRAD - France

April, 2011



# Table of Contents

<b>1</b>	<b>Analytical references and methodology</b>	<b>3</b>
<b>1.1</b>	<b>Defining and assessing competitiveness</b>	<b>3</b>
1.1.1	Country or sector/industry competitiveness.	3
1.1.2	International dimension	4
1.1.3	Measuring competitiveness	4
1.1.4	From comparative advantage toward competitive advantage	7
<b>1.2</b>	<b>Methodology and study implementation</b>	<b>10</b>
1.2.1	The proposed analytical framework for the study	10
1.2.2	Analytical steps in implementing the analysis.	11
1.2.3	Implementation of the studies,	12
<b>2</b>	<b>Constraints and determinant of competitiveness</b>	<b>15</b>
<b>2.1</b>	<b>Demand conditions and competitiveness issues.</b>	<b>15</b>
2.1.1	Competitiveness and Syrian agricultural trade structure.	15
2.1.2	Domestic demand dynamic for the selected value chains	17
2.1.3	Agricultural trade evolution and configuration.	20
2.1.4	The preeminent role of the regional markets	22
2.1.5	Demand condition and incentives for enhancing the competitiveness.	23
<b>2.2</b>	<b>Configuration of the value chains and structure</b>	<b>24</b>
2.2.1	Value chains with competitions	24
2.2.2	Dualistic structure in chicken meat value chain	26
2.2.3	Public driven durum value chain	28
2.2.4	Correlation between trade openness and the level of competition	29
<b>2.3</b>	<b>Factors conditions and cost based competitiveness</b>	<b>29</b>
2.3.1	Profitability level and sustainable competitiveness	29
2.3.2	Critical costs items.	31
2.3.3	Potential “Policy rewards” to durum quality.	32
<b>2.4</b>	<b>Supporting industries services and policy priorities</b>	<b>33</b>
2.4.1	Basic supporting services to agro food value chains.	33
2.4.2	From agro-food value chain to agro-food clusters.	34
2.4.3	Policy enabling environment:	36
<b>3</b>	<b>Perspectives for public policies and research</b>	<b>39</b>
<b>3.1</b>	<b>Lessons learnt from the case studies.</b>	<b>39</b>
<b>3.2</b>	<b>Formulating and implementing enabling public policies</b>	<b>42</b>
<b>3.3</b>	<b>Priorities areas for analytical support</b>	<b>44</b>
	<b>References</b>	<b>47</b>

**List of Tables**

Table 1: Agricultural trade values by import and export of raw and processed items..... 16  
Table 2: Syrian lentil food balance sheet..... 21  
Table 3: Syrian durum and soft wheat export ratio ..... 21  
Table 4: Apple trade flow matrix for the GAFTA region .....23  
Table 5: Chicken meat retailing price across the region in 2009 in Kilogram..... 31  
Table 6: Assessment of wheat and durum exports changes on the level of public subsidy .....32  
Table 7: Determinant of the selected value chains’ competitiveness..... 41

**List of Figure s**

Figure 1: The Boston Consulting Group matrix..... 5  
Figure 2 The Porter Diamond .....9  
Figure 3 Applying the Porter’s diamond to a value chain analysis.....11  
Figure 4: Configuration of agricultural trade in value (average 2001-2007). ..... 16  
Figure 5: Fruits per capita consumption trends in Syria ..... 17  
Figure 6: Per capita lentil apparent consumption .....18  
Figure 7: Per capita potato consumption .....18  
Figure 8 Durum wheat per capita consumption ..... 19  
Figure 9: Chicken, Mutton and Bovine meat per capita consumption ..... 19  
Figure 10: Evolution of broiler, sheep and cow meat wholesale price..... 20  
Figure 11: Syrian apple food balance sheet ..... 21  
Figure 12 : Apple value chain configuration.....25  
Figure 13: Lentil value chain configuration.....26  
Figure 14: Chicken meat value chain – direct agents. ....27  
Figure 15: The durum value chain structure ..... 28  
Figure 16: The Syrian chicken meat clusters. ....35

## **List of Acronyms**

DOC	Day Old Chicken
GCB	General Company for Bakeries
GCM	General Company for Milling
GFATA	Grand Arab Free Trade Agreement
GECPT	General Establishment for Cereal Processing and Trade
GESMAAP	The General Establishment of Storing and Marketing Agricultural and Animal Products
GVC	Global Value Chain
Kg	kilogram
MASH	Manual Slaughtering Houses
MESH	Mechanical Slaughtering Houses
NAPC	National Agricultural Policy Centre
RCA	Revealed Comparative Advantage
RTA	Relative Trade Advantage
SADB	Syrian Agricultural DataBase
Sp	Syrian pounds
SWOT	Strengths, Weaknesses, Opportunities and Threat
UAE	United Arab Emirates
UNDP	United Nation Development Program
WTO	World Trade Organization



## INTRODUCTION

The increasing openness of the Syrian economy has materialized through the acceleration of the negotiation and implementation of multi-lateral and bi-lateral trade agreements during the last decade. In 2005 the Grand Arab Free Trade Agreement (GAFTA) has been implemented, in 2006 a trade agreement has been signed by the Syrian government with its Turkish neighbor while an agreement is under completion with the European Union and the application to the World Trade Organization (WTO) has been officially launched.

Since the early 1990's Syria has gone through a wave of major structural reforms evolving from a state planned economy toward a social market economy. These reforms mainly focused on modifying macro-economic rules through, particularly, a gradual opening of foreign trade, a liberalization of the financial sector and a new legal environment in favor of private investment. While these reforms impacted on the whole economy they have deep implications for the evolution of the Syrian agriculture. Although, the agricultural sector represents less than 20% of the GDP (NAPC, 2007) in the recent year, agro-food products are still the third sources of exports and this sector is characterized by a high level of openness to international trade since the value of Syrian agricultural products internationally traded represents about 43% of the total agricultural production .

Furthermore, the expected impact of the on-going reforms on the performance of the agricultural sector is strategic in social and political terms, as the agricultural sector still represents 17% of the total working population in 2004. Even though the share of the agricultural working population in the total active population is decreasing rapidly (it was representing almost a third of the active population in 2000), it still represents a significant share. Thus, the capacity of the Syrian agriculture to sustain incomes and jobs opportunities have far reaching implications in terms of poverty alleviation and limitation of spatial and social inequalities that might be exacerbated by the structural changes.

Eventually the agricultural sector is also a key element for the rapidly growing Syrian agro-food industries that play a critical role in the industrialization of the Syrian economy and beyond its increasing integration into the global agro-food markets. The agro-food industries represent 25% of the total value of the manufactured products (Karkout, 2006) and an increasing share of agro-food exports consist of processed products (30% in terms of value in 2007 – NAPC, 2008)

The enhancement of the economic linkages between the Syrian agro-food sub-sector and the rest of the world is critical to reap the expected social and economic benefits of the structural changes. This will rely on its capacity to actually make use of opportunities provided by an increasing accessibility of foreign markets and to compete with new competitors on its domestic markets. Indeed, challenges faced by the Syrian agriculture is not limited to its performance in terms of export, but also to its capacity to respond to an evolving domestic demand in both terms of quantity (population growth) and quality (changes in the type of food consumed and the way to consume it) induced by income increase.

Since its creation the National Agricultural Policy Centre's resources have been extensively mobilized to monitor and analyze the impact of these radical changes on the Syrian agriculture to feed Syrian policy makers and authorities with relevant inputs for taking the required actions to maximize the expected benefits of these reforms and minimize the potential social costs.

This report presents the outcome of a study carried out on the assessment of the competitiveness of the Syrian agriculture applied to selected representative value-chains. This study was a component of a larger project funded by Arab Fund for Economic and Social Development. The study pursued two objectives simultaneously:

- i) feeding the policy debate on the determinant of Syrian agricultural competitiveness and to

ii) to further strengthen the capacity of the NAPC in analyzing and monitoring asset and obstacle for supporting the competitiveness of the Syrian agro-food value chain.

It is important to underline that this study is a part of the continuous endeavor of the NAPC to assess and identify factors that explains the capacity of the agricultural sectors to stand the increasing competitions induced by the set of reforms implemented in Syria. However, this study also constitutes an attempt to broaden the scope and analytical method applied by the NAPC staff in assessing the performance of Syrian agro-food chains and the agricultural sectors as the whole. As a matter of fact, during the past years, the NAPC has produced and publish several studies looking at the performance of strategic or so called promising value chains and sub-sectors using standard economic analysis such as Policy Analysis Matrix, or Value added creation and distribution along the value chain.

Before presenting the outcome of the study it was therefore felt necessary to clarify as far as possible the analytical references used to implement this study. The concept of “competitiveness” will be therefore discussed in a first part, including the methodological options retained by the study team to assess the competitiveness of the selected value chains. The literature on “competitiveness” is indeed abundant, while little has been published on how actually, concretely applying these analytical framework in practice. Given, the capacity building objective of this study the proposed methodology will be detailed in the second section of this firs part.

The second part of the report presents the main outcomes of the studies carried out in line with various determinant of competitiveness that has been selected in the methodology. Five commodities have been chosen as cases for assessing the competitiveness of Syrian agro-food value chains: chicken meat, apple, potato, durum wheat and lentil. In order to improve the readability of this report, this second part will focus on the main and most relevant outcomes of the five cases, while the reader having a particular interest on a given commodity could refer to the commodity report providing the detailed analysis for each value chains. Furthermore, presenting the results simultaneously for the five commodities allows taking a comparative perspective that will provide additional insight into the weight of the various factors that impact on their competitiveness.

The last and concluding section of the report will focus on the policy implications that can be derived from the analysis and proposed areas that need additional investigations to better understand how the Syrian agro-food sector may further enhanced its competitiveness within a rapidly changing environment.

# 1 Analytical references and methodology

## 1.1 Defining and assessing competitiveness

The term “competitiveness” is widely used (if not overused) in policies arenas across the world, being held as the key words to assess the relevance of decisions taken by both policy makers at government level or private managers designing the strategy of their companies (Krugman, 1994). While this report is not the place for extensively discussing the underlying and theoretical implications of the definition of “competitiveness” it is necessary to devote several lines to clarify how the term will be used in the context of this study. The reader can refer to other papers, addressing this issue more extensively, on the bases of which this discussion is developed (Esterhuizen, D, 2006).

### 1.1.1 Country or sector/industry competitiveness.

One dimension of the competitiveness relates to the scale of the economic system that should be assessed. The title of the seminal book written by M.E Porter “The Competitive Advantage of Nations” is actually misleading as it is not looking at the performance of a nation but propose an analytical framework to assess the performance of an industry, or a cluster of industries or a sector. In fact the analytical framework considers the nation or the country as a set of resources and constraints that impact on the capacity of a given industry to compete or not. However, the same level of resources and constraints associated with a particular country (natural endowment, localization, level of education and support to research, trade regulations, fiscal systems...) may or may not lead a particular sector or industry of this country to be competitive or not. Similarly, the same type of industry may be competitive in two countries having different assets in term of resources.

This confusion is reinforced by the abundant literature and references made to the “Global competitiveness” report published annually by the World Economic Forum (World Economic Forum, 2010) where countries are ranked in term of national competitiveness on the base of a composite index. The index is derived from an evaluation of various factors determining the competitiveness made by a set of experts. The International Institute for Management Development is doing a similar analysis with a slightly different set of variables and with an inferior number of countries (IMD, 2010). Since 2007 the United Nation Program for Development is assisting the Syrian government in preparing the Syrian contribution to these reports (Syrian Prime Minister Council & UNDP-Syria, 2007). However several academic works on competitiveness conclude that even though these ranking may provide some relevant insight on the trends in the business environment for each country their analytical basis remain hampered by the “subjectivity built into the scores through interview base methodologies” (Esterhuizen, D, 2006) and even conclude that: “the Davos index is a simple ranking; in this sense its value has no economic meaning either in terms of the level or of changes in competitiveness” (Mann L. ,1999).

Therefore, even though the economic, social, institutional environment offered by a given country has an impact on the competitiveness of an industry, the level at which the performance could be assessed should refer to a more define and tangible output than the aggregate production of a country. Accordingly we may conclude that within the same country the production of cars is competitive whereas the production of furniture is not.

In terms of scale, we can identify several analytical frameworks, elaborated from industrial economics literature and management sciences, which aim at analyzing the competitiveness of a group of economic agents. These approaches acknowledge that the achievement of any economic activity cannot be considered in isolation and that a large share of the competitiveness is determined by the capacity of each individual economic agent to interact one with another. Accordingly, the assessments of the competitiveness take into account a group of interdependent activities rather than the achievement of an individual company or economic agent. The group of interdependent activities or economic agents may

be defined as a “cluster” or as “a value chain”, depending on the focus and theoretical background upon which the analytical framework has been developed.

### 1.1.2 International dimension

International trait is one attribute that cut across the various definitions of the competitiveness used in the literature. Whether or not, the level of analysis relates to a country or a sector, or a group of industry “competitiveness” is always considered in reference to the position of these entities into the global economy. Several analytical frameworks such as the concept of Global Value Chain (Gerrefi et al., 1994) goes even further, putting the globalization process, cutting across national economies at the core of the capacities of any industry or firm to be competitive. The nationality of any component of a Global Value Chain (GVC) does not matter per se; what is at stake is the capacity of the transnational firm or group of companies to locate their various activities in the best place. For instance in the sportswear industry, design and conception functions might be located in Europe while the making will be done in Asian countries where labor is cheap, and the retailing in various markets across the world. In terms of labor distribution, such a global value chain will be more beneficial for Asian countries, but in terms of net earning a major share of the net profit generated in the value chain may be kept in the hand of the companies having the brand ownership and the design capacities. In term of competitiveness, it would be hard to say that an Asian country is more competitive than a European as the efficiency of the GVC relies on the location of various interdependent tasks across various countries. The increasing importance of retailing tasks and demand shaping (through advertising) tend even to further minimize the weight of the actual making stage in the whole process.

### 1.1.3 Measuring competitiveness

The definition of the competitiveness is closely associated and leads to the issue of its measurement. Several analytical frameworks use the market share as an indicator of competitiveness.

#### 1.1.3.1 The market share

The market share is usually assessed at the national level through the analysis of export share. Along these lines the concept of “Revealed Comparative Advantage” (RCA) has been developed for assessing the competitiveness of an economic sector of a given country. It consists in comparing the country’s share in the world market for one good relative to its share of all traded good<sup>1</sup>. An extended version of the RCA, the Relative Trade Advantage (RTA) has been proposed which take into account both import and export. However these indicators remains statics and assumes that market share is a good proxy of the underlying factors (factors endowment, productivity) of the competitiveness.

A more dynamic assessment of competitiveness based on world market shares is proposed by the Boston Consulting Group comparing for a given product on a X/Y graph the growth share of the traded volume at the world scale to the growth of the market share for a given country ( Figure 1) . The position of each products (or countries for a given product) allows classifying them along four groups:

1. The “Wild cats” (or question mark), characterized by a high market growth, but where the country has a limited share of the word market, indicates product for which there are potential for expansion but with

---

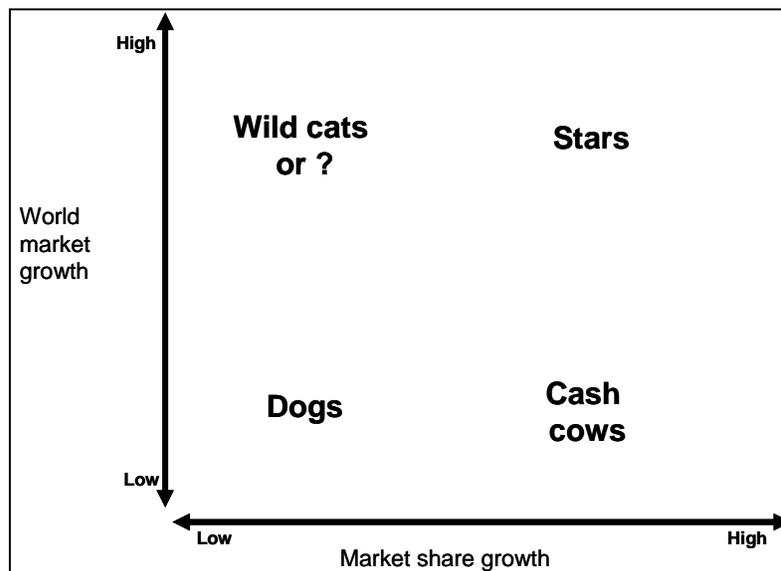
<sup>1</sup> If  $X_{Aj}$  is country A's export value of industry J,  $X_{Wj}$  is industry J's world export value and  $X_A$  is A country total export and  $X_W$  is total world export value, then the RCA index for the industry J in the country A would be:

$$RCA_{Aj} = \frac{\frac{X_{Aj}}{X_A}}{\frac{X_{Wj}}{X_W}} \text{ If } RCA > 1 \text{ the country A is said to have a revealed comparative advantage in industry j}$$

a high level of uncertainty. The method didn't allow assessing if the market share of the country will expand.

2. The "Stars" category contains products for which both, world market growth is high, and market share expand rapidly. These are clearly product for which the selected country presents a competitive advantage.
3. The "Cash cows" are products for which the country's market share growth is important but where the world market expansion is low, meaning that the favorable position of the country on this market does not mean that there is a perspective for long term expansion.
4. The last categories, "Dogs", contains product for which the country's market share is stagnating or even declining in a market that is globally shrinking, meaning that these products do not offer any perspectives in terms of market share expansion.

**Figure 1: The Boston Consulting Group matrix**



Assessing the advantage in terms of market share is easy to carry out as far as the data needed are relatively accessible, but it only provides a snapshot of the relative position of a country into a given market (or economic sector), and it gives only a limited insight into the factors that influence the observed position or trends of the sectors competitiveness. Thus they can be used as preliminary investigations of the issue but should be combined with other tools to achieve a better understanding of the problem and a clear identification of the factors that determines competitiveness.

#### *1.1.3.2 Cost based competitiveness*

Observing changes in market shares does not provide an explanation of the underlying causes that explain why a country's world market share may expand or regress. Since the early development of economic analysis, changes in international trades' patterns and the capacity of a given country to export have been analyzed through, and explained, by comparing their productivity. Accordingly the competitiveness of a given country or sector within one country will be determined by the ability of its economic agents to efficiently combined production factors that are basically grouped under two major categories: labor and capital.

Within a market based economy the price are supposed to indicate the value of the production factors and input/outputs used/produced in the production process, so they should guide economic agents in allocating their resources. Hence, the competitiveness of a given economic activity would be assessed by its profitability. In an open trade and competitive environment, a country, or an entrepreneur does not have the market power to set the price of its output, thus its profitability would be basically determined by

the cost of material inputs used in the production process, the cost of the labor used and the capital invested to perform the economic activity. Thus, the standard theory of trade explains that trade patterns are basically determined by differential in terms of factors costs. For instance, a country endowed with cheap labor will export goods that are labor intensive to produce, while a country with high cost of labor will export goods that are less demanding in labor quantity to be produced

These standard trade theory has been widely used to set up priorities and strategies in the formulation of development policies, arguing that a successful economic development rely on the best integration of a given economy into the world economy. Accordingly, the impact of economic policies on the prices of inputs, outputs and factor prices has been at the core of the assessment of trade performance and expected benefits from international trade to the economic growth. The proponents of this analytical framework emphasize the impact of public policy and market failures (the inability of market mechanisms to confront the supply and demand of specific inputs or production factors) on price levels. Tax, tariff, subsidies, “missing” or “imperfect” markets lead to prices that diverge from what would be their level under efficient markets mechanisms. According to this dominant analytical framework, prices distortions provide wrong signals to economic agents that do not allocate optimally their resources. For instance a tax on labor may encourage entrepreneur to used capital intensive technology, whereas they would be more competitive on the world market if they use more labor intensive production technology.

The concept of “comparative advantage”, that could be considered as a core concept for measuring trade performance of a given sector in a country, rely on this analytical framework. A country is said to have a “comparative advantage” in producing a given good, if the value added in the production process (i.e the value of the final output minus the value of the inputs used for producing the final output) is higher than the value of the production factor used in the production process. The estimated value of outputs, inputs and production factors should refer to the prices that would prevail without distortions on input/output and production factors markets. The distinction between comparative advantage and competitiveness is clearly mentioned by Monke and Pearson when they present the method to compute Policy Analysis Matrix to measure the comparative of a given sector (Monke A. and Pearson R., 1989). Competitiveness refers to private profitability when the calculation of the benefit, or losses are based on current prices on the bases of which entrepreneurs are operating, while comparative advantage is based on the computation of the benefit or losses that would be obtained using non- distorted price or “social prices”. Hence, according to the standard trade theory, a sector that is competitive (generate profit) might not have a comparative advantage if it benefit from public subsidy for instance, while a sector that appears to be uncompetitive may actually have a comparative advantage if its activity bear a high level of tax.

With regards to the assessment of the performance of an economic activity competing in an open trade environment, this analytical framework present the advantage of proposing a number of well defined quantitative indicators that can be use for decision making. However, the underlying theoretical background of this indicator, such as the Financial or Private Cost Benefit ratio or the Domestic Resources Cost ratio presents several limits.

#### *1.1.3.3 Standard cost based trade theory shortcomings*

Basic analytical framework of the competitiveness, that could be referred to as the “cost based competitiveness” has been further refined and discussed throughout the development of the economic and managerial sciences. This short overview does not allow discussing extensively the various analytical critiques and refinements that have been formulated against or in favor of this standard trade theory. However it is worth mentioning several shortcomings in both methodological and analytical terms that justified adopting a broader analytical perspective of the competitiveness.

In methodological terms the estimation of the level of distortion is still rather challenging. While it remains straightforward for policy induced distortions, it requires heavy computational tools and economic modeling for estimating market inefficiency induced distortions. Market inefficiency are particularly difficult to factor in for estimating undistorted price on the world market, since international current price are impacted by several national policies and market segmentations. However, the proponent of this approach rightly point out that nations are basically price takers in the international market,

meaning that the international market price still remain a sound criteria for policy decision making, since it still represent the opportunity cost for a country to produce locally a substitute.

The analytical shortcomings of the standard trade theory for assessing the performance of a given economic sectors or an industry have been extensively reviewed in the past decade with the rapid growth of international trades flows that cannot be systematically understood on the based of this analytical framework. (Abbott P. & Bredahl M., 1992)

Firstly, the assumption about the “domestic nature” of production factors (capital and labor) is less and less corroborated by the nature of the globalization. Foreign direct investments, delocalization of specific steps of an industrial or production process are key features of the globalization process which cannot be limited to the trades of material goods and services. The increasing globalization of finance is another illustration that capital resources are more and more international rather than “domestic” in nature.

Secondly, the empirical analysis of trade flows between countries shows that they cannot systematically be explained by the standard trade theory. For instance, industrialized countries are able to export raw materials to developing countries, such as wheat in the case of the agro-food sectors, while one would expect that, according to the international trade division theory, they export predominantly sophisticated goods and import mainly raw materials. Even though, this apparent paradox, called the Leontieff paradox, has been explained on the bases of technology differences<sup>2</sup>, critiques of the standard trade theory also point out that countries do also exchange products of the same categories, produced with comparable combination of production factors mix into their process. The increasing importance of intra-sectorial trade (countries trading for instance cars between themselves) put into question the relevance of a trade theory based on the heterogeneity production factors endowment.

#### *1.1.4 From comparative advantage toward competitive advantage*

##### *1.1.4.1 Multiple determinants of competitiveness*

New analytical framework has been gradually formulated in the latest decades pointing out that trade flows and market share can be rather explained by other forces than factor prices and endowment (Kennedy et al. 1997).

On the demand side, market segmentation should not be viewed as an evidence of market imperfection but rather as the engine of market growth. Market segmentation acknowledges that consumers or end users do value goods not only on the bases of the product price only but also on the bases of several non-price attributes that characterized a product. These non-price attributes do of course include the quality of the product. In the case of agro-food products where taste and palatability play a key role in consumers' choices, physico-chemical properties of a product is an important determinant of competitiveness of a supplier. But non-price products' attributes do also include other categories of characteristics such as the cleanliness, the homogeneity of a product, its packaging and the ways along which the product is handled and retailed (cold chains, accessibility of the retailing points...). Services associated with the supply of a good, such as after sale services or consumers' credit, might even be more determinant than the attribute of the product itself for end users' purchase decisions.

On the supply side, an array of factors hinders the weight of the “factors ‘cost” in the competitiveness of an industry. For instance, firms' structure could play a critical role in strengthening competitiveness. Firms reaching a critical volume of production may benefit from economies of size which may lead to a better position in the input and output markets or allows maintaining investments in new products development to further differentiate the market.

The structure of the industrial process may also lead to higher efficiency through the integration of different stage of the production process through vertical integration. Beyond, merging and integration that is playing a key role in the strategies follows by firms to maintain their competitive edge within a globalizing economy, other forms of coordination among firms have also demonstrated their positive

---

<sup>2</sup> the technology used in developed country agriculture are much more capital intensive and required skill labor embodying a high level of human capital

impact on competitiveness. For instance the coordination of various units of small to average size, grouped into “clusters” on the basis of geographical proximity has proven a viable option to strengthen the competitiveness of industrial units. This is the case for small steel-mills in northern Italy that were able to survive the restructuring of the steel sector in Europe by sharing resources and technology and developing their capacity to respond to specific segments of the market. Competitiveness is not only influenced by the quality of the coordination between firms performing the same activity, but also with their suppliers of services. Maintenance services transport and logistics, research and development institutions are also key ingredients on the path toward competitiveness. In relation with the markets segmentation process on the demand side, localization of the production when it is clearly associated with the quality of a product or the way it is processed (Indication of origin) may also be a determining factor of competitiveness depending upon end user sensitivity to such quality attribute.

#### *1.1.4.2 The Porter diamond*

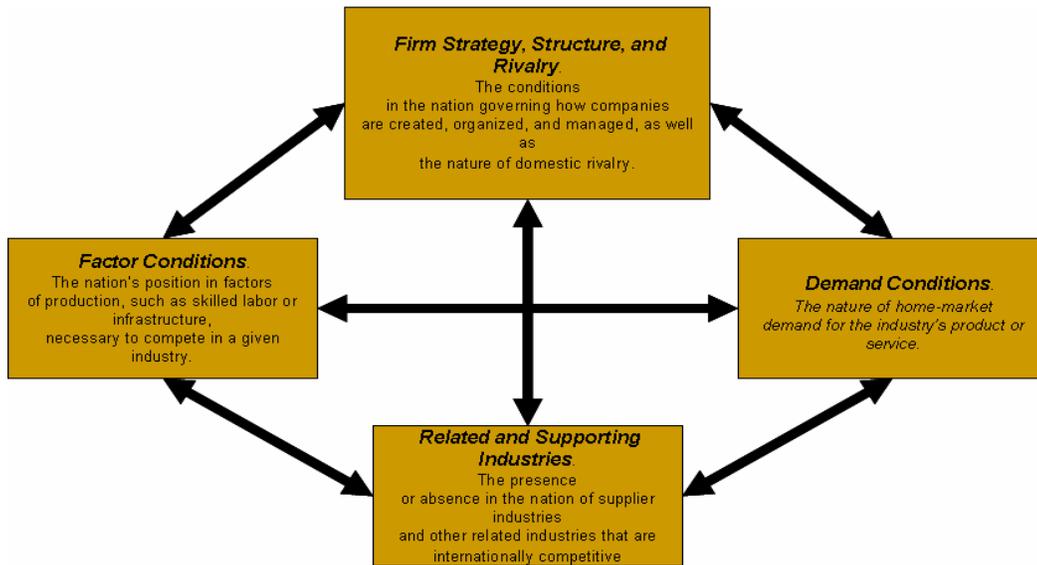
Acknowledging the shortcomings of the cost based conceptual framework of competitiveness M.E Porter has proposed an analytical framework to understand how an array of factors interacts for making an industry or an economic sector competitive (Porter M.E. 1990). He proposed to gather the factors that determine the competitiveness of a firm around four major categories that are sketched out under the form of a diamond (Figure 2). The so called “Diamond of competitiveness” has become a standard reference for the analysis of the competitiveness and includes the following facets:

- Factors conditions are the first set of factors that determine the competitiveness of an industry or a productive system. It entails basically the technical efficiency of the industry and to what extent the know-how of the workers involved in the production give an output that is able to respond to the demand in terms of volume and quality. To a certain extent this set of factors is closely related with the concept of productivity and financial profitability.
- Demand conditions include factors that deal with the nature of the demand on the domestic market. Attention should be given to end users or consumers’ expectations, to what extent these expectations are a source of incentives for the selected industry and for enhancing its performance. Another feature of the demand condition will be the size of the domestic market: does it allow or not the industrial sectors to benefit from scale of economies and to shift to more advanced technologies that may be technically and economically viable only above a given volume of demand (depreciation of fixed cost).
- Related and Supporting industries set of variables regard how the given industry may or not benefit from an economic environment that provides the required inputs and services on a cost effective basis and with standards that match quality requirements. This group of factors includes material inputs such as fertilizer for instance, but also services such as transportation. For instance, an efficient transportation system is a key factor of competitiveness for the development of “just in time production” systems minimizing buffer stocks between the various plants of a productive system.
- Firm strategy, Structure and Rivalry is the fourth set of variables that influence the competitiveness of an industry. It is derived from the analytical framework of the Structure-Conduct-Performance where the efficiency of an industry is determined by the level of competition that prevails in the sectors. But, it goes beyond the only criteria of competition as it also takes into account possible cooperation between industrial units that have the same function, produce the same outputs and that form an industrial cluster. The collaboration between different companies within a cluster can combine both flexibility and efficiency in terms of management, with the benefit accrued from economy of scale by sharing the purchase of raw materials or by having a coordinated strategy for marketing their outputs. Firm strategy looks also at the possible impact of vertical integration whereby the same company controls the various steps of a technical process from the production of the raw product upstream to the final product downstream. This may lead to a more efficient coordination and competitiveness if, for instance, the transaction costs, associated with the certification of the quality of the product, are very high.

The presentation of these four sets of determinants of the competitive advantage under the configuration of a diamond allows underlining that each set interacts with another set. For instance the Firm strategy,

Structure and Rivalry will be closely related with the Demand condition. If consumers are putting value on the diversity of the product this may lead to a more competitive structure. Along the same line, the Factors conditions are influenced by the Related and Supporting industries variables; for instance a company may or may not be able to use a technology on a cost effective basis if there is or if there is no maintenance services available in the country.

**Figure 2 The Porter Diamond**



Given its analytical power and its comprehensiveness, the Diamond Porter became a standard reference for assessing the competitiveness of productive systems. However it should be noted that this analytical framework do not provide a clear indicator for measuring the competitiveness as it focus on the interactions between the various sets of variables that determine competitiveness. Along Porter's lines of thoughts, competitiveness is not a static outcome but a process.

#### 1.1.4.3 Methodological options.

This short review of the various analytical references dealing with “competitiveness” shows the diversity of conceptions that are associated to this word. In their attempt to synthesize what competitiveness means, the Canadian Agri-Food Competitiveness Task Force defined competitiveness as: “ The sustained ability to profitably gain or maintain market share” (Martin L. Stiefelmeyer K., 2001). This definition is an attempt to capture the various dimension of the concept but its application was still narrowly focused on the trends followed by two indicators across the years: the trade net balance and the value added generated. On the bases of exchange with the NAPC management and taking into considerations the type of expertise that its staff has already accumulated the following methodological options have been retained to carry out the studies.

Firstly the focus was put on the meso level, as the NAPC has already developed a broad field of field of expertise on market share analysis as evidence in the various issues of the Syrian Agricultural Trade report. Accordingly the analysis refers to the competitiveness of selected value chain, taken at the unit of reference. Secondly it was proposed to broaden the scope of analytical framework beyond the sole analysis of profitability. This was coherent with the objective of capacity building, since the NAPC has already proven expertise in the field of comparative advantage analysis it was logical to put the focus on a more dynamic approach of the competitiveness including more qualitative aspects. The implication of this methodological choice in terms of public decisions making will be presented in the conclusion of the report with the discussion about the lessons learnt and the perspective open by this study.

## 1.2 Methodology and study implementation

### 1.2.1 *The proposed analytical framework for the study*

The analytical frameworks presented above do not refer specifically in terms of application of their concepts to particular economic activities, although most of the examples used in the literature deal with industrial processes. However, looking at the competitiveness of agricultural products leads to put the emphasis on a value chain approach which takes into account the various steps from the production of the product under a raw form down to its delivery to end users under a processed form. While industrial or consumer goods making may be a very complex process combining multiple components without having one of them dominating the whole range of input, agro-food production processes are characterized by a lower number of intermediate goods combined into the process. In other words, the commodity in process that goes along the various step of an agricultural value chain is the major input use at each stage of the processed. For instance an apple remains the major input for each operation that forms the entire system. Even though, this particularity of agricultural products value chains might be erase with increasing sophistication of ready made food, it is still a major feature for the type of products that have been included in this study. Hence, the proposed methodology to assess the competitiveness combines a value chain approach with the facets of the Porter's diamond (Figure 3).

#### 1.2.1.1 *Focus on the demand*

While value chain analysis usually rather focus in priority on the relations between economic agents in charge of fulfilling a specific function along the whole process from raw material production down to the final stage for producing the final output, looking at competitiveness requires to put more emphasis on the demand conditions. Competitiveness is before all a matter of being able to sell, thus describing the consumptions requirements and their evolutions is the first stage in the analysis.

The demand conditions are therefore characterized in terms of volume and per-capita consumptions and also, as far as possible, in terms of quality and market segmentation. One generic product can actually encompass a wider range of product that responds to different market niches. The analysis of the demand condition will also distinguish between the domestic and the foreign market features. Beyond the issue of domestic and foreign market shares in the marketing of the final product, the interaction between the dynamic of these two markets might be crucial. As underlined by M.E. Porter: "companies have a vital stake in making their home environment a better platform for international success" (Porter, 1990). In other words this part of the analysis also considers to what extent the local market requirements may or may not play the role of a "learning ground" for the Syrian agro-food value chains, for improving their competitiveness either for expanding their foreign market share, or at least for being able to maintain their domestic market share against foreign competitors.

#### 1.2.1.2 *Market chain configuration, coordination and Firm Strategy, Structure and Rivalry*

The analysis of the value chain configuration, the mapping of the system, is used as a tool to characterize and analyze the dynamic of the whole value chain. The respective positions of the value chain agents displayed on the graph allow to understand which agents or group of agents is competing one with another one. The graph shows which agent is located in a strategic position in the system and have the capacity to direct the flows of product in one direction, or, on the contrary, which agents are in a position of dependant. The different type of coordination among the agents of the system is part of the analysis of the firm strategy, structure and rivalry. The level of competition and the interdependence between them will be affected by the type of coordination such as spot market based exchange, contractual arrangements or hierarchical organization whereby a leading company defined the strategy of its subsidiary.

#### 1.2.1.3 *Technical and financial analysis and factors conditions*

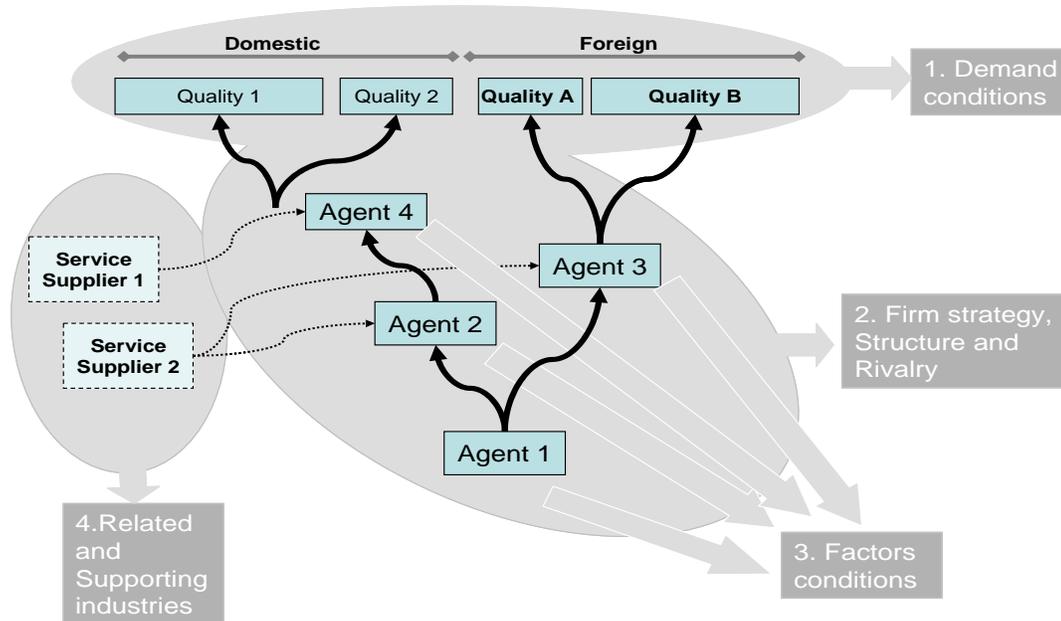
The analysis of agents practices, technologies provides the basis to understand how factors conditions affect their individual performances and, beyond, the overall performances of the system. This part of the analysis put into perspective the combination of labor and capital (equipments, machines) associated with

the know how of each value chain agent and with its financial performance. The financial analysis provides an insight into the profitability of each agent and of the whole systems. It is also a means to identify inputs or services that are critical for the financial viability of the value chain. The identification of key inputs leads to the analysis of the interaction between the value chain agent and their suppliers of inputs and services.

#### 1.2.1.4 Value chain environment , “indirect agents” and supporting industries.

In value chain terminology, the concept of “indirect agent” is close to the one of supporting services as defined in the Porter’s diamond. While “direct agent”, in the value chain system is the one that are in a position to control how the flow of the commodity in process is organized (i.e. from whom to purchase and to whom to sell) “indirect agents” influence the performance and the organization of the system by providing intermediate inputs, such as animal feeds, and services such as equipment maintenance, storage facilities or transport. “Indirect agents” role in the system is not limited to the provision of inputs but also include immaterial goods such as financial services, technical backstopping or information collection and dissemination. Like for “direct agents”, “indirect agents” might be a private and individual entrepreneur or collective and public institution. The State and its administration might not be strictly equivalent to an “indirect agent”, however by extension the legislative frameworks and the policy setting (i.e. fiscal, trade sanitary policies) can be considered as a component of the supporting services that impact positively or negatively on the competitiveness of the selected value chains.

**Figure 3 Applying the Porter’s diamond to a value chain analysis**



#### 1.2.2 Analytical steps in implementing the analysis.

Whereas the assessment of the competitiveness refers to the Porter analytical framework, the analysis was carried out in reference to the value chain approach. The report on each selected commodity produced by the NAPC staffs who participated in this capacity building endeavor was organized along the same format, following these analytical steps:

- Firstly the demand was characterized in both quantitative and qualitative terms at both the domestic and foreign market level.
- The next step proceed with the mapping of the value chain to reveal how it is structured from the production of the agricultural raw material down to the retailing and exporting to end users. The mapping includes the identification of the various categories of agents performing different functions (primary

production, marketing, processing...), which can be further refined into sub-type on the basis of the type of practices and technology used to perform the same function. For instance a distinction was made between industrial poultry meat units and small-scale slaughter houses.

- Then, on the bases of the practices and technologies identified in the previous step, a financial analysis of the each operation was undertaken to asses its profitability and identify critical items in their cost structure that may have a particular impact on its financial viability. A consolidated analysis was carried out at the system level to assess to what extent revenue distribution among the various agents could be a source of differentiation among them, affecting the resilience and the sustainability of the whole value chain and its capacity to evolve toward higher level of competitiveness.
- The following step deals with the value chain environment including the provisions of inputs, services, the legal and policy framework. This part also includes investigations about the presence of organization for specific type of agents, or across the whole chain, and to what extent this collective action are effective in facilitating coordination among the value chain agents and other stakeholders.
- The last part, deals with a set of recommendation backup by a Strengths, Weaknesses, Opportunities and Threat analysis (SWOT).

This analytical framework has been adjusted according to the particularity of the issue addressed in each study and according to the available information.

### *1.2.3 Implementation of the studies,*

#### *1.2.3.1 Sequence of activity*

Five NAPC staff has been involved in the implementation of the study, each one being in charge of a particular commodity. A two weeks workshop presenting the methodological issues was organized at the inception of the study, followed by data collection. These preliminary data collected were presented, discussed and analyzed during a second working session lasting two weeks. On the bases of the outcome of the second working session, complementary data were collected from different sources which were incorporated into preliminary commodity reports.

Major findings and issue were discussed during a third working session. This third working session included exchange of views among the NAPC study teams and with NAPC management. It also featured two sessions with groups of stakeholders for two commodities (apple and potato) in order to get their views on issues cutting across the whole value chain. These meeting where analysis were feedback to agents aimed at both validating the relevance of the outcomes of the study and also promoting the provision of additional information.

#### *1.2.3.2 Source of information*

The analysis was carried out on the basis of secondary information collected from past studies and regular reports produced by the NAPC, the Syrian Agricultural Database managed by the NAPC, supplemented by data and information collected from other institutions in Syria and from the internet.

Analyzing the competitiveness required also to get primary information that cannot be retrieved from published materials. Therefore, a sample of agents of each value chains and other stakeholders from public administrations and collective organization (Chamber of commerce, producers or traders organizations) were interviewed. The purpose of the interviews with the value chain agents was to get, both, qualitative information on their practices and strategy, and quantitative information, in particular on the quantity of input used (technical coefficients), their production and the associated costs. Whenever possible, this information was crosschecked with secondary sources.

### *1.2.3.3 Constraints*

The implementation of the study has to deal with various constraints. The sample of agents interviewed was limited according to the resources and time available. To some extent this limitation may not affect the relevance of the information collected and the derived conclusions because a practice, and its related costs, may not vary significantly from one agent to another one using the same technology. However, in some cases, a broader sample of interviewed agents may have given more insight into the complexity and diversity of strategies pursued by them. It should also be noted that time and resources may not be major constraint in getting reliable information from private entrepreneur when they are reluctant to present their activity.

Another constraint faced in the implementation of the study is the lack of information on what is happening on the foreign market, and in particular on how other competing suppliers targeting the same market are organized and operates. The analysis of the demand trends on foreign markets rely basically on secondary data (FAO data) and reports. These materials were supplemented with Syrian exporters' perception and knowledge about these markets, regarding, in particular, grading and quality issues. A more in-depth analysis of the domestic market would have also enriched the relevance of the studies.



## 2 Constraints and determinant of competitiveness

The analysis of the constraints of the determinants that affect the competitiveness of the Syrian agro-industrial value chains focused on five systems that were selected by the management of the NAPC. These five value chains are namely:

- Apple
- Lentil
- Potato
- Chicken meat
- Durum wheat

The rationale supporting this choice refers to a particular issue that concerns each commodity, that will be further developed and detailed below; it also take into consideration the specificity of each commodity with regards to its export share in the total value of the production, the reputation of the Syrian production on foreign markets and the prevailing level of protection of the domestic market.

This section provides a synthesis of the outcome of studies carried out for the five selected commodities. The findings will be presented a comparative perspective in order to underline the exemplarity of the features associated with the selected commodities. It will follow the methodological framework proposed above, starting with the demand conditions, then looking at the structure and the rivalry that characterize in each value chain, followed by an analysis of the factors conditions and the profitability, while the last section will look at supportive industries and how the value chain macro-environment may affect its competitiveness. As already mentioned comprehensive reports have been produced by the each NAPC in charge of implementing the analysis for a specific value chain.

### 2.1 Demand conditions and competitiveness issues.

#### 2.1.1 *Competitiveness and Syrian agricultural trade structure.*

As underlined in the review of the analytical background, competitiveness can be defined as the capacity of the given sectors to compete on foreign markets by expanding their market share or/and being able to keep its domestic market share under an open and competitive trade regimes. Therefore competitiveness can be considered as an outcome of a positive interaction between the domestic market dynamic and the foreign market evolution which provide the adequate incentives and opportunities to improve the efficiency of a given value chain.

The effectiveness of this process is also determined by the capacity of a given value chain to increase the value of the agricultural production through the processing of the raw product. Table 1, based on Syrian Agricultural DataBase (SADB) records show that the largest part of the Syrian agricultural trade deficit in the recent year is due to the higher value of processed items imports compared to the total value of the processed item exports (SADB, 2008). On the contrary, the trade balance of raw agricultural is positive. It indicates that Syrian agro-food industries have not yet the capacity to satisfy its local market with processed items, while its agriculture is still able to produce enough surpluses to export and target foreign markets. However, the increasing trends of the processed agricultural good in the total value of export, increasing from 16% in 2000 up to 30% in 2007 indicate an increasing participation of the agro-food industries in the total value of agricultural exports. The expansion and increasing capacity of the Syrian agro-food industries in being competitive is also corroborate by the stabilization of the share of the processed agricultural items in the total value of import. At longer term, the objective would be to reduce this part.

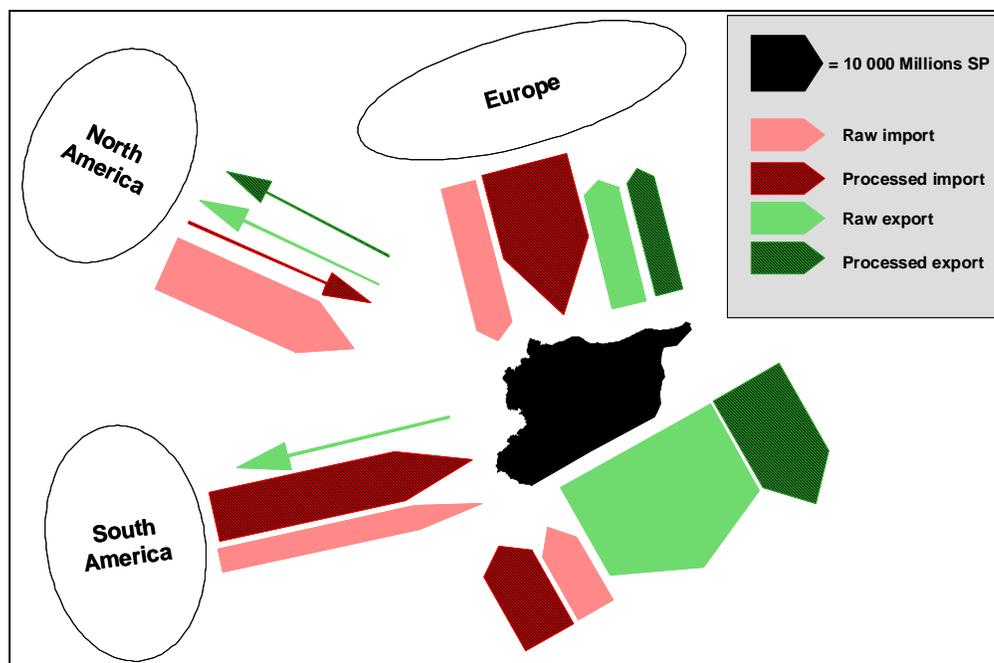
**Table 1: Agricultural trade values by import and export of raw and processed items.**

Items	Unit	2001	2002	2003	2004	2005	2006	2007
Raw Items mports	Millions Sp	16 967	17 291	21 565	25 055	33 060	28 208	39 707
Processed Items mports	Millions Sp	23 843	30 807	28 940	39 628	39 115	35 983	55 821
Raw Items exports	Millions Sp	31 941	53 612	42 647	40 528	37 071	44 117	48 327
Processed Items exports	Millions Sp	5 935	7 718	9 667	11 333	18 693	16 997	20 980
Balance raw	Millions Sp	14 974	36 322	21 083	15 474	4 011	15 910	8 620
Balance processed	Millions Sp	-17 908	-23 089	-19 273	-28 296	-20 422	-18 986	-34 841
Balance Total	Millions Sp	-2 934	13 233	1 810	-12 822	-16 411	-3 077	-26 221
Share processed items in total import		58%	64%	57%	61%	54%	56%	58%
Share processed items in total export		16%	13%	18%	22%	34%	28%	30%

Source: SADB, 2008

The position of the Syrian agriculture in this globalization process is also illustrated by the Figure 4. It distinguishes the trade of raw agricultural products and the trade of processed agricultural goods as reported in the SADB, for both exports and imports taking into account the major regions of destination and origin. This figure shows that the major Syrian trading partners for agricultural trade is the Arab countries which is consistent with the geographical position of Syria, its history and the increasing liberalization of trade within this group of countries along the implementation of the GAFTA. It is also interesting to note that the Syrian trade balance is positive with Arab countries, because of a large volume of export of raw agricultural product. On the contrary, Syria has a deficit with its other majors trading partners, namely the European, South American and Northern American countries. In this case, the deficit is mainly due to the import of processed agricultural products, with the exception of imports from Northern American countries that essentially consists of raw agricultural products.

**Figure 4: Configuration of agricultural trade in value (average 2001-2007).**



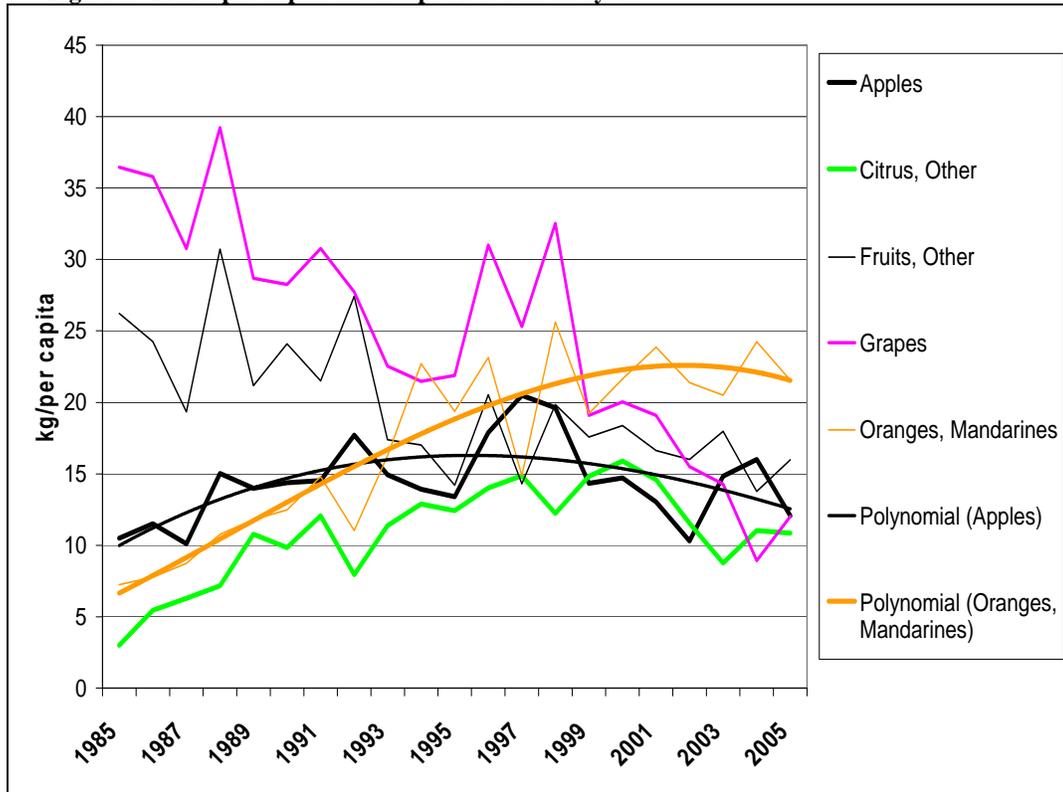
Source: Computed from SADB, 2008

### 2.1.2 Domestic demand dynamic for the selected value chains

While international trade play an increasing role in the transformation of the Syrian agriculture, domestic consumption remains its original market on the bases of which has been gradually established a diversified agro-food industry. Trends in the local demand for each product are therefore an important driver in the potential changes and challenges faced by the selected value chains.

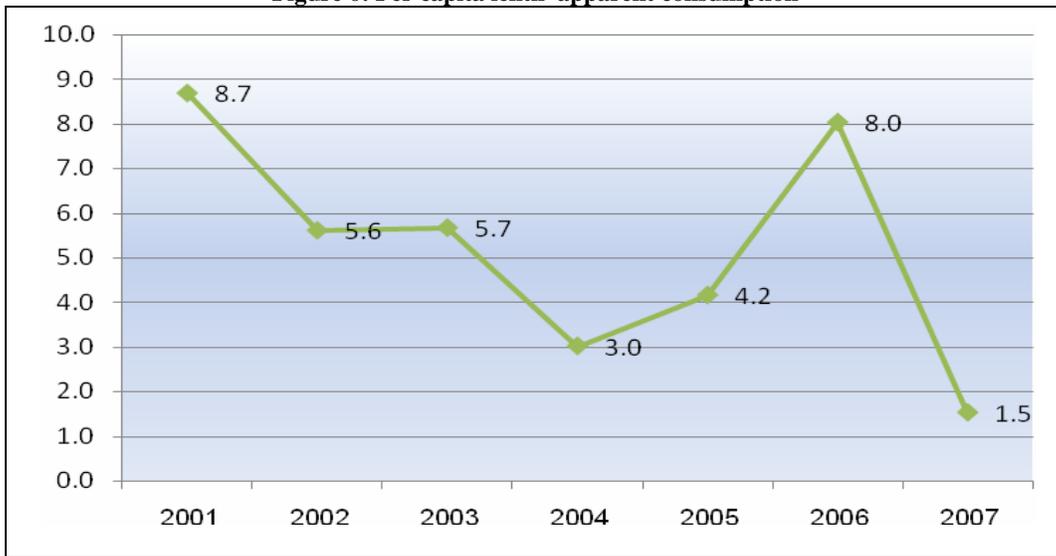
After having increased up to the middle of the nineties, the apple per capita consumption is declining from 15 kg per year down to around 12 kg per capita in 2007 (Figure 5) . A similar trend is observed with the per capita consumption of lentils that tend to decrease throughout the last decade down to less 1.5kg in 2008 on the bases of apparent consumption computed from the Syrian lentil Food Balance Sheet. While this estimated low level of consumption is an outcome of a low level of production, the overall consumption trends is going downward (Figure 6). For potato, Syrian per capita consumption is rather stable evolving around 30 kg per years for the last decade (Figure 7). Durum wheat also exhibit a slightly declining trends in its per capita apparent consumption, decreasing from an 120kg record in the 2001 to less than 80kg in 2007 ( Figure 8). Chicken meat domestic consumption is the only commodities among the five selected that clearly show an upward trend, the per capita average consumption increasing from 5 kg at the beginning of the 90' up to 9 kg per capita in 2007.

**Figure 5: Fruits per capita consumption trends in Syria**



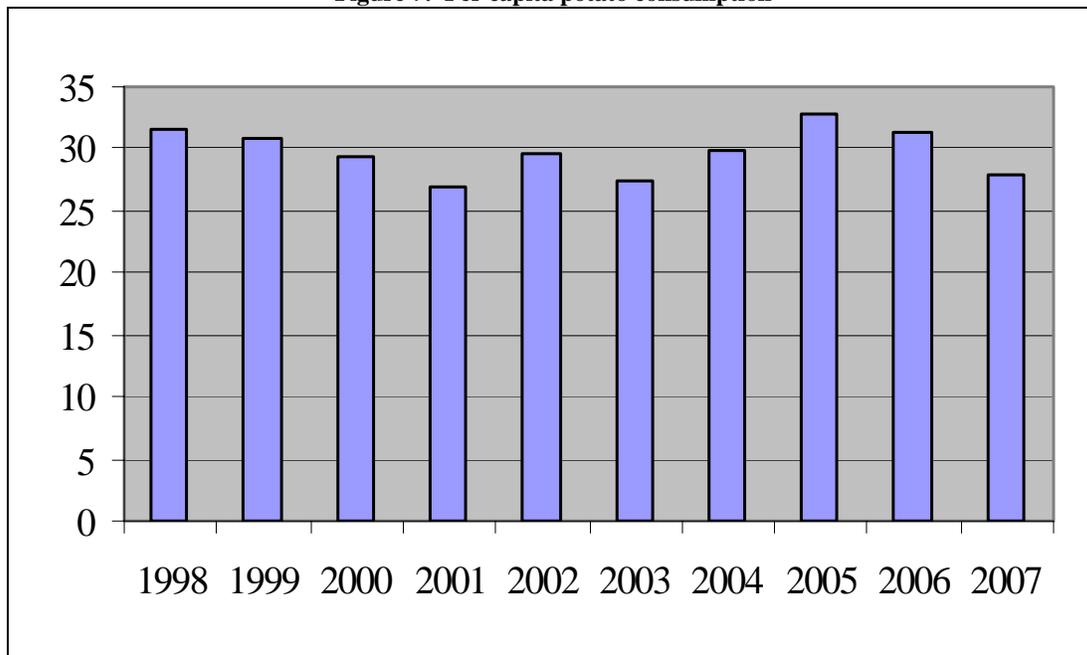
Source: Competitiveness of Syrian Apple Value chain, NAPC 2010.

**Figure 6: Per capita lentil apparent consumption**



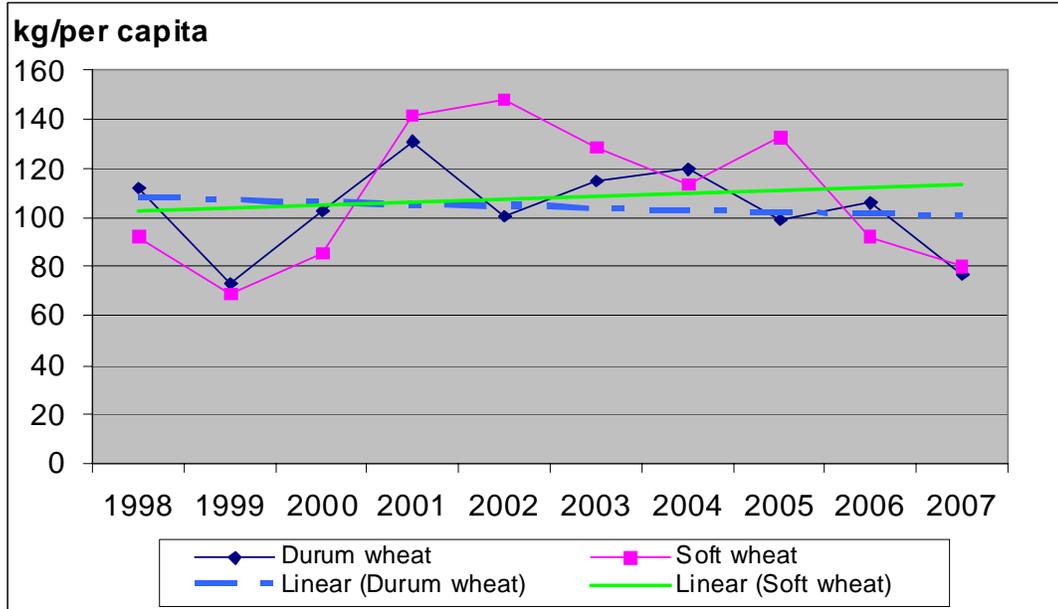
Source: Competitiveness of Syrian Lentil Value chain, NAPC 2010.

**Figure 7: Per capita potato consumption**



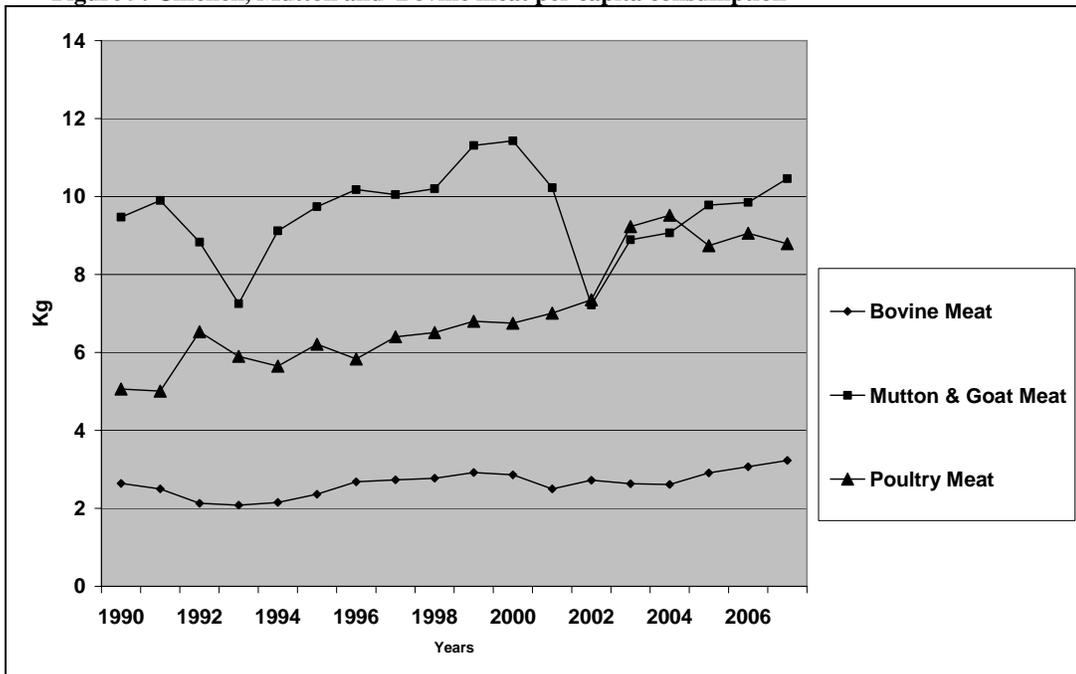
Source: Competitiveness of Syrian Potato Value chain, NAPC 2010.

Figure 8 Durum wheat per capita consumption



Source: Competitiveness of Syrian durum wheat Value chain, NAPC 2010.

Figure 9: Chicken, Mutton and Bovine meat per capita consumption

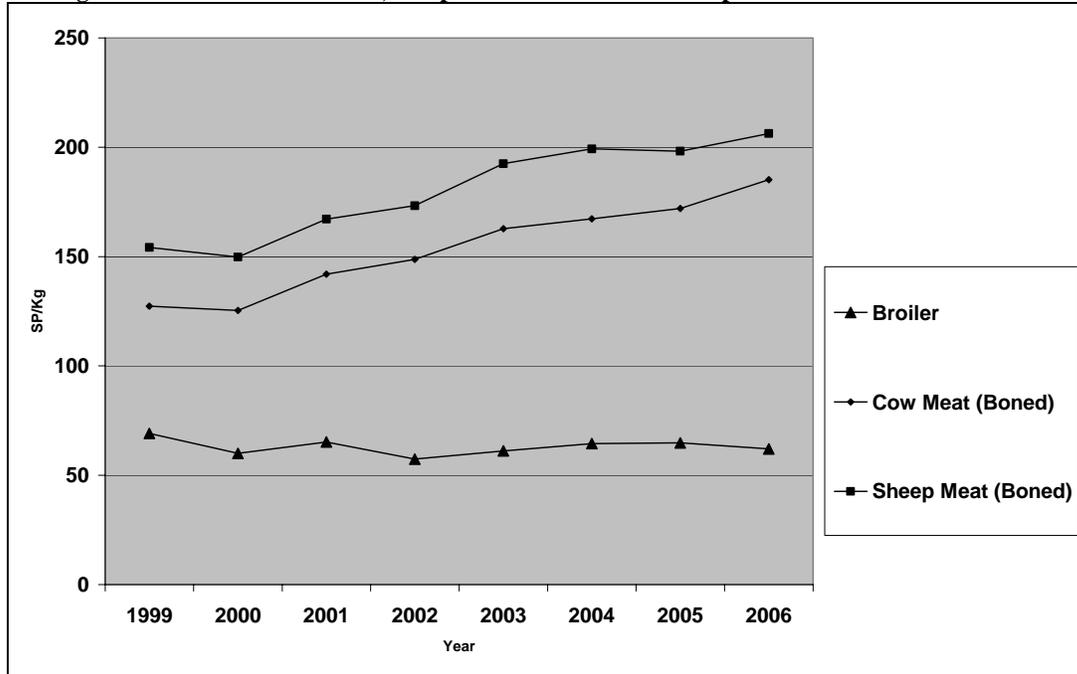


Source: FAOSTAT, 2010

These diverging trends of per capita consumption are of course determined by the diet transition that occurs along the Engel law with the increase of the average income. With the changes in income, Syrian consumers are eager to increase their consumption of superior goods, including more expensive foods, while the share of the ordinary good and foods such as bread tends to remain stable or decrease. This trend is also combined with other consumers' behavior looking for higher level of diversification of

their diet and may also responds to relative changes in prices. For instance, as shown by Figure 5, the consumption of apple tends to decline while the consumption of oranges is increasing. The upward trends in the consumption of chicken are also supported by a faster price increase for mutton and bovine meat as shown in (Figure 10); while the price of chicken has remained stable throughout the last decade, the price of sheep and cow meat has been multiplied by 1.45 and 1.33 respectively. Changes in consumers' preferences and income are not the only factors explaining the evolution of the demand on the domestic market. For the durum wheat value chain, the decision taken by the government to reduce the share of durum wheat flour from 50% to 25% in the subsidized integrated flour for bread making has a direct impact on the domestic markets.

**Figure 10: Evolution of broiler, sheep and cow meat wholesale price.**



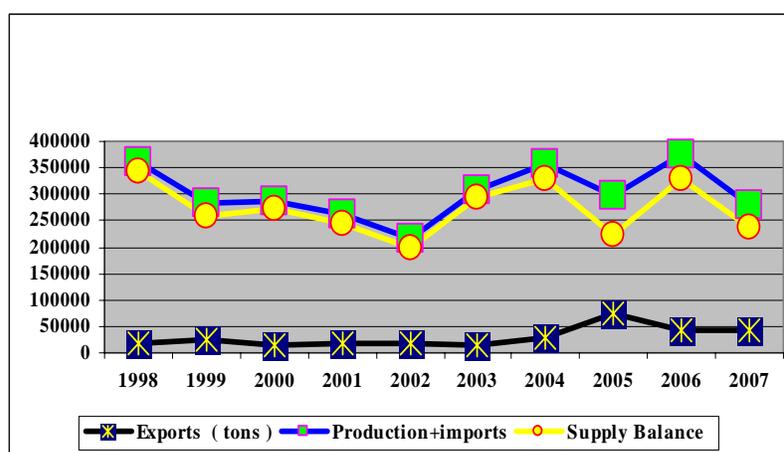
Source: SADB, NAPC, 2008

### 2.1.3 Agricultural trade evolution and configuration.

The other potential “engine” for supporting the expansion of agro food value chain is the export markets. It may play a critical role in allowing the sustainability of a productive system when the domestic demand is stagnating, or decreasing relatively to other goods as it is the case for three of the selected product: apple, lentil and durum. The comparison of the share of the export in the total sale of these three value chains shows that foreign markets represent a significant share of the total demand only in the case of lentil. Since 2003 between 40% to 57% of the lentil produced in Syria are exported, indicating a strong opening of this value chain to the foreign market ( Table 2). For durum wheat the share of export in the total production is far beyond the ratio achieved for lentil as it varies across the years from 0% to 27% (Table 3). This rather limited expansion of durum exports is an outcome of the specific status of the wheat in the Syrian food policy as its trade is under the control of the public General Establishment for Cereal Processing and Trade (GECPT). Exports volume is primarily determined with reference to cereal production and the level of stock explaining the high variation of the volume of durum wheat exported. In the case of apple the export share in the total production stagnated until the middle of the years 2000s, when export started to increase reaching according to FAO data almost 45% of the production in 2007. For potato, based on FAO data, the share of export in the total production fluctuated from 3 to 23% between 1997 and 2007, depending upon the level of production and public intervention on the level of export. In the case of chicken meat, exports have been rather negligible, since the policy prevents the exportation of chicken meat to ensure an adequate supply at the lowest possible price on the local market.

Imports are not allowed and the outbreak of avian disease has certainly increase constraints for trading chicken and chicken meat.

**Figure 11: Syrian apple food balance sheet**



Source: Competitiveness of Syrian apple value chain, NAPC 2010.

**Table 2: Syrian lentil food balance sheet**

	production	import	export	Available	self-sufficiency %	degree of dependence on imports%
<b>2001</b>	177	0.3	31	146.3	121	0.17
<b>2002</b>	133	2	38	97	137	1.5
<b>2003</b>	168	0.9	70	99.6	169	0.54
<b>2004</b>	125	0.3	71.4	54.2	231	0.24
<b>2005</b>	154	0.4	76.9	77.5	199	0.26
<b>2006</b>	181	3	80	104	174	1.66

Source: Competitiveness of Syrian lentil value chain, NAPC 2010.

**Table 3: Syrian durum and soft wheat export ratio**

	2001	2002	2003	2004	2005	2006	2007	2008
<b>Soft wheat</b>	0%	0%	8%	28%	15%	35%	36%	8%
<b>Durum wheat</b>	1%	27%	20%	4%	13%	11%	22%	0%

Source: Competitiveness of Syrian durum value chain, NAPC 2010.

In summary, with the exception of lentil, and to lesser extent of apple, export still play a secondary, if not marginal role in the structure of the demand for each selected value chain. Rather than being a target per se, historically, the export market was used as a buffer to match demand to supply whenever the production was abundant enough. However, with the decreasing trends in apple and lentil per capita consumption and the stagnation of the per capita potato consumption, the foreign market will play an increasing role for matching supply and demand for these commodities; therefore, the competitiveness of these productive systems is becoming a critical issue. The context is different for the durum and chicken meat value chain due to the persistence of a more restrictive trade policy.

#### 2.1.4 *The preeminent role of the regional markets*

Among the four selected commodities that are internationally traded, Syria hold a significant position in the world trade for lentil and durum wheat, whereas the quantity of apple and potato exported are marginal with respects to the total volume traded internationally. For lentil, Syria is the 6th exporters worldwide, with an average volume of 70000 tons exported yearly during the last decade. However, its share of total world exports is only 6%, far behind the major exporters, Canada that supply more than 40% of the total volume of lentil traded internationally. Canada and the European Union also dominate the durum wheat market, exporting respectively 25% and 13% of the total volume traded internationally. With 1.8 millions tons of durum exported in 2007, Syria is the 5th exporters, although this volume represents only 5% of the total world export.

In terms of trade flow destinations, as already mentioned in the overall presentation of the Syrian agricultural trade orientation, the most important export market targeted by Syrian products are the GATFA region. For lentil the major markets targeted by Syrian lentil exporters are Egypt, Saudi Arabia, Jordan, Turkey and Lebanon. Syria has a dominant position only in the Jordan and Saudi Arabia where it provides the largest share of the import; in the other markets, especially Egypt, Syria is competing with Canada and Turkey that are major players and exporter to this market. For durum wheat, the major markets are the northern African country members of the GAFTA, Algeria and Tunisia, where durum wheat is used for the production of semolina (50% of Syrian durum export), followed by Italy for the production of pasta (around 30% of Syrian durum export). The remaining part of the Syrian durum export (less than 20%) targets neighboring countries and other European countries.

Egypt has become the major market for Syrian apple exporters, getting around two third of the total volume of Syrian apple exports. It is followed by the Jordan market while (around 15%) while the Gulf countries market (Saudi Arabia, Kuwait) which were important destinations ten year ago for the Syrian exporters are becoming minor destinations. The apple regional market flows combined various sources of suppliers including the major exporters worldwide such as Chile, China, USA and European Union countries, with a limited number of local suppliers, Lebanon and Syria, to which we can add the Turkish exporters. The trade matrix displayed on Table 4 shows that while the major world wide exporters are dominating the high income markets of the Gulf countries, the regional apple exports are mainly targeting the Egyptian and Jordan markets. Syria has a significant position on this market. Syria supplies around one third of the Egyptian and Jordan exports, competing with Lebanese and American exporters on the Egyptian market and being the first suppliers of apple to the Jordan market. However, it should be noted that these important market shares are related the lower requirement of Jordan and Egyptian consumers in terms of apple packaging, compared to the Gulf countries retailing systems that have evolved toward higher standard that cannot be necessarily fulfill by Syrian exporters.

**Table 4: Apple trade flow matrix for the GAFTA region**

Destination (importers)	Origin (exporters)										Total
	Belgium	Chile	China	France	Italy	Netherland	Poland	USA	Syria	Others	
Algeria	0.2%	-	2.0%	67.1%	2.2%	0.1%	0.6%	-	1.9%	25.9%	100.0%
Bahrain	-	5.8%	5.5%	9.6%	0.6%	0.2%	-	14.0%	0.7%	63.7%	100.0%
Egypt	0.1%	2.7%	2.6%	2.4%	0.6%	-	-	7.7%	36.9%	47.1%	100.0%
Jordan	-	0.1%	-	0.5%	0.2%	-	0.3%	2.5%	30.5%	66.0%	100.0%
Lebanon	-	2.9%	-	0.1%	-	-	-	1.3%	24.6%	71.1%	100.0%
Libyan Arab Jamahiriya	-	-	0.8%	21.6%	63.4%	0.2%	0.4%	-	28.0%	-	100.0%
Morocco	-	0.3%	0.4%	18.9%	4.9%	3.3%	-	2.0%	-	70.2%	100.0%
Kuwait	-	20.5%	4.0%	5.5%	0.5%	0.0%	-	23.2%	3.0%	43.3%	100.0%
Oman	-	1.0%	2.9%	2.7%	-	-	-	1.4%	-	92.1%	100.0%
Qatar	-	-	7.9%	2.8%	-	0.0%	-	4.5%	3.4%	81.4%	100.0%
United Arab Emirates	-	21.9%	11.6%	9.7%	1.7%	0.0%	-	28.8%	0.4%	25.9%	100.0%
Saudi Arabia	-	35.6%	8.8%	8.1%	6.1%	-	-	14.1%	0.9%	26.4%	100.0%
Turkey	-	17.8%	2.4%	4.1%	14.8%	41.5%	-	-	0.5%	19.0%	100.0%
Total	0.0%	15.9%	6.0%	16.1%	4.0%	0.5%	0.1%	11.8%	7.0%	38.5%	100.0%
Middle east countries	0.0%	19.6%	7.0%	6.4%	2.7%	0.0%	0.0%	14.6%	7.7%	42.0%	100.0%

Source: Competitiveness of Syrian apple value chain, NAPC 2010.

Syrian potato exports are, like for apple, targeting mainly regional markets. The Jordan market is the first destination followed by the United Arab Emirates (UAE) and the Saudi markets. In the recent years, Syrian exporters have also resumed their activity with Iraq, which is reemerging as a major destination. The configuration of the potato regional market diverges from the apple one, because most of the potato imports are supplied by regional exporters. Hence, on the Jordan market, Syrian exporters are competing with Lebanese and Saudi exporters. On the EAU markets the major suppliers are Saudi, Lebanese and Egyptian exporters. It should be underlined, that unlike for the apple situation, none of the Syrian potato exporters have a dominant or significant market share on any of these importing markets.

#### 2.1.5 Demand condition and incentives for enhancing the competitiveness.

Preliminary lessons can be drawn from the analysis of the demand conditions. Domestic markets' dynamic does not seem to be a driver of changes that will provide incentives for enhancing the competitiveness. The position of apple, lentil, potato and durum in the Syrian diet is stagnating, if not declining, meaning that these markets may become less attractive for the agro-food sectors, or at least they will generate fewer expectations from the consumer's side in terms of product improvement. Chicken meat market is the only market that experienced an expansion in terms of per capita consumption, but it remains isolated from international competition, thus providing limited encouragements to this value chain to evolve toward more efficiency. While the domestic market may not be a "learning ground" for the Syrian agro-food industries, questions remain about the potential role that the foreign market can play in the process of competitiveness building. Among the four commodities that are internationally traded two groups might be distinguished.

On one side, Syrian durum and lentil certainly benefit of a high reputation on the international market, and this is corroborated with the Syrian position among the exporters of these commodities. Although, countries such as Canada have a dominant position on these market as major exporter, Syria ranked among the top six exporting countries. In addition the rather high openness of the lentil value chain to the international market with almost half of its production being exported is another evidence of its capacity to compete with other sources of supply. The durum market context is specific as it is still considered by the Syrian authorities as strategic commodities at the service of the country food security. However it

should be noted that the regional market (GAFTA countries and Turkey) remains the principal destinations for exporting these goods, with the exception of the Italian pasta makers market for the durum. In other words, for these two commodities, the competitive advantage build upon their reputation is expressed or appreciated at the regional level and does not necessarily support the expansion of Syrian exports beyond its regional market.

On the other side the Syrian apple and potato exports are confronted to a more competitive environment. Firstly they do not clearly benefit from an 'identity' associated with their origin as it is the case for lentil and durum, secondly, the Syrian position on the regional market is weaker. The changes in apple exports destination, from the Gulf countries to the Egyptian and Jordan market, indicates that Syrian exporter have mainly targeted middle level markets in terms of quality standard requirements when they started to develop their exports to compensate for a stagnating domestic market. While the apple value chain may benefit of a good position on this intermediate quality of market segment, it remains to be seen if this position can provide the required experience to target new markets beyond the region, such as the European Unions member countries. In the case of potato, the competition on the regional market might be more balanced than for the apple one, as most of the "market players" (i.e. exporters and importers) are within the regions, while the competition from non-regional suppliers is rather limited. At this stage Syria exports represent a limited share of its potato production, but Syrian exporters may be in position to improve their experience within this regional market configuration. They are competing with countries that may have the same structure of resources endowment leading to a rather fair competition.

## **2.2 Configuration of the value chains and structure**

The configuration of the five value chains can be classified into three categories taking into account the type of coordination that prevails among the various agents of the system and the demand context. The first type of configuration includes the apple, potato and lentil value chains, where competition prevails at each stage of the system with a limited segmentation between marketing flows going to the domestic and the regional market. The chicken meat value chain is a particular case, combining competition between private agents but with a specific configuration induced by technical gaps for chicken slaughtering which leads to a strong segmentation into the system. The durum is a third category of structure in itself, as its organization is under the control of a public body, the GECPT.

### *2.2.1 Value chains with competitions*

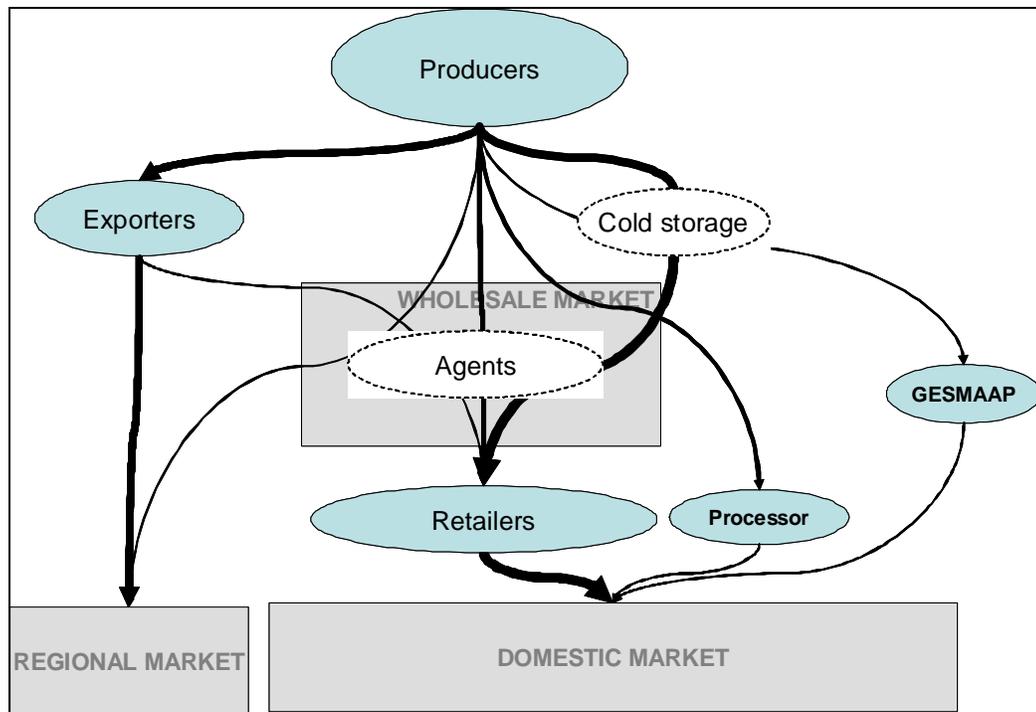
The configuration of the agro-food chains managed by private agents in Syria is rather common, involving different types of agents fulfilling the basic functions of raw agricultural product production, marketing and processing.

With regards to the production of the agricultural raw product, various types of farmers may be distinguished on the bases of the agro-ecological zones and the corresponding cropping practices. For instance, the production of apple produced under irrigation conditions is concentrated in the Damascus areas combining the advantage of cold climate (mountainous areas) and the proximity of large urban markets. The availability of favorable growing conditions is an asset for the Syrian apple value chain that can grow a wide variety of apples, even though the current production rely on a limited number of varieties. Beyond the agro-ecological factors, this geographical concentration of the production improves also the efficiency of the production by facilitating the provision of services to the producers, such as cold storage. At the production stage there is no specific obstacles to the development of apple production that depends mainly upon its profitability relatively to other crops. The planted area tends to decrease as a consequence of the demand stagnation on the domestic market. If the share of the apple sold on foreign markets increases, and given that the competitiveness on this market is influenced by the quality, this may even trigger a higher geographical specialization of the apple production based on the agro-ecological conditions. Under the current configuration of the system, there are no major differences among producers in terms of size.

Apple marketing on the domestic market relies on the competition between apple producers that deliver their product at wholesale market places across the countries where retailers procure for distribution to consumers. The price is determined after bargaining taking into account the supply and demand conditions on the spot and the quality of the product. The transaction between the producers and retailers are facilitated by a broker (called agent in the Figure 12) who provides a space to store the apple until a buyer is found. Apple production is a seasonal activity, so farmers either own their own cold storage facilities or rent it in from an indirect agent. The General Establishment of Storing and Marketing Agricultural and Animal Products (GESMAAP) has a marginal role in the apple marketing on both the domestics and the foreign markets. Apple processing (mainly for juice) does absorb a very limited share of the production (around 5%).

Besides the domestic market, apple exports are managed by specific traders who are generally dealing with a range of fruits and vegetables. These exporters have invested in sorting and packing stations and purchase apples directly from producers on a contractual agreement; the exporter may even do the harvesting of the fruits with its own staff. The export apple sub-chains is therefore less competitive and rely more heavily on interpersonal confidence between producers and exporters. This may hindered the transmission of signals with regard to quality improvement as price is determined on a bilateral basis. The exporters can sale on the domestic wholesale markets apples that do not match export standards requirements, which means that there is some level of interdependence between exporting and selling on the domestic market. This means, that exporting is not an independent alternative to selling on the domestic market. It remains to be seen to what extent this flexibility in allocating apple to the foreign or the domestic market is an advantage in terms of competitiveness. On one hand, it provides more flexibility to the system and a capacity to manage risk and uncertainty of the apple quality, and this enhance the resilience of exporting sub-system and its capacity to compete. On the other hand, it may provide an exit option to the exporter competing on the foreign market and reduce the incentive in investing in quality management along the whole apple export sub-chain.

**Figure 12 : Apple value chain configuration**



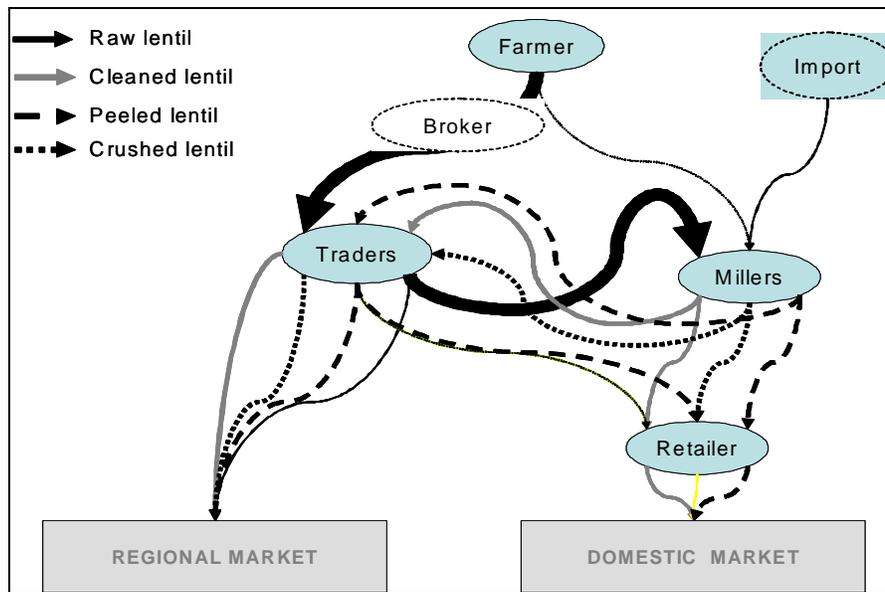
Source: based on Competitiveness of Syrian Potato Value chain, NAPC 2010.

While the configuration of the potato value chain is similar to the apple with respect to this interdependence between the domestic and the foreign market sub-chains, the situation for the lentil is rather different.

Processing is a key function for the marketing of lentils. Raw lentils are seldom marketed in the country or exported. Raw lentil has to be processed into various forms starting from cleaned lentil that can be peeled and then further crushed. The lentil value chain is therefore organized around two major agents: the trader and the miller. While the information gathered didn't allow producing a definitive graph of the lentil value chain, it can be derived that the trader has a strategic position for the allocation of the lentil to the domestic or foreign markets. Trader can purchase raw lentil either directly from the farmer or through a broker. The batches of raw lentil purchased by the trader are then processed by a miller according to the instruction of the trader on a service basis, and the processed lentils are sold by the traders. Millers can also purchase and resale their own batch of lentils so they are simultaneously direct and indirect agent in the system. No evidence has been gathered of agent fulfilling both functions on a large scale. Processed lentils are distributed on the domestic markets through retailers.

The lentil value chain is an illustration of the positive impact that an exposure to foreign market competition can have on the competitiveness of a productive system. In order to respond to foreign end users' requirements in terms of processed lentil specifications, Syrian lentils millers have invested in up to date technologies similar to the one used by European and Canadian competitors.

**Figure 13: Lentil value chain configuration**



Source: based on Competitiveness of Syrian Potato Value chain, NAPC 2010.

### 2.2.2 Dualistic structure in chicken meat value chain

The chicken meat value chain has a particular configuration split into two different sub-systems according to the slaughtering technique: mechanical or manual slaughtering. While the MEchanical Slaughtering Houses (MESH) are a component of larger poultry companies and are only a few (5 to 6 for the whole country), the Manual Slaughtering Houses (MASH) are managed by individual entrepreneur and are many (about 40 units for the Damascus area only).

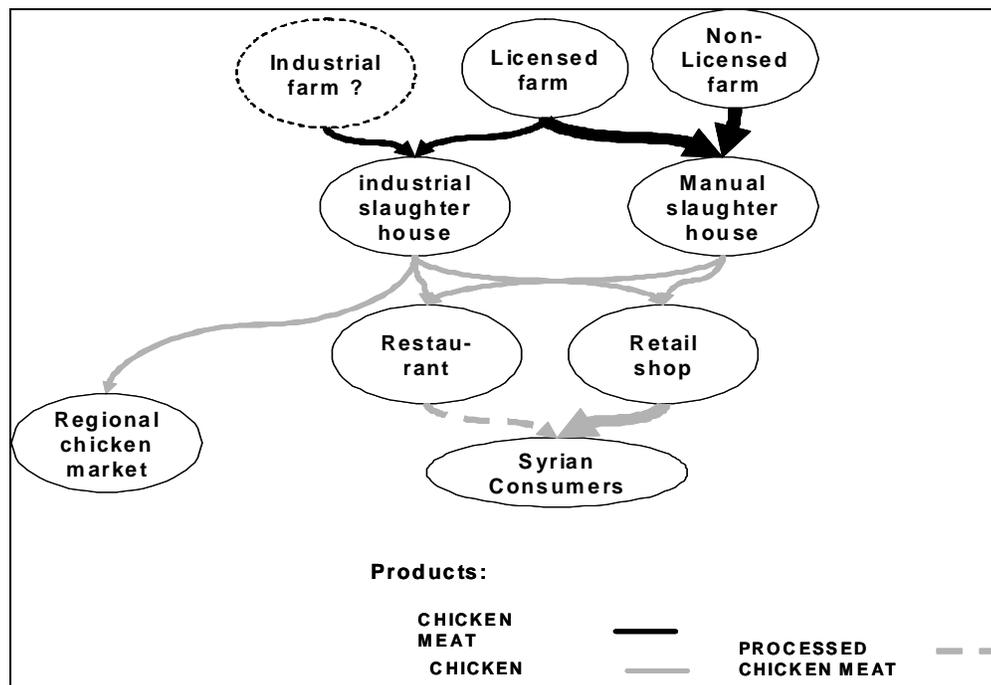
The manual slaughtering techniques does not respect the official sanitary norms but still supply the largest share of the market. Mechanical slaughter do actually operates at less than 50% of their total capacity and it is estimated that they supply only 10% of the market. These modern slaughtering units were initially established by larger companies handling the production of chicken breed to target the regional market.

The current trade restrictions on chicken export restrict their outlet to the domestic market where they have to compete with small scale MASH.

On the upstream part of the chicken meat value chain, the chicken breeding of Day Old Chicken (DOC) is mainly fulfilled by individual producers managing chicken farms. There is larger chicken breeding units, integrated within the poultry company, but they produce only a limited share of the total production of chicken. The individual chicken farms are divided into licensed and non-licensed units which represent about 60% of the total chicken farms (NAPC database). The persistence, and importance, of un-licensed farms is due to the low incentive for getting a license because it requires a number of investments, following sanitary specifications, and the payment of various tax while licensing does not yield any advantages in terms of market access or selling price of the chicken.

Live chicken are collected and sold to the slaughterhouses by traders (not represented in the graph to keep some clarity). The output of the slaughterhouse are purchased either by retailers who distribute it to the consumers under the form of a whole chicken (the share is estimated at 60% of the total chicken meat consumption) or by restaurant of various size especially for the preparation of chicken shaowrma (10% of the total chicken meat consumption) as a substitute to the lamb meat. The market for chicken meat cuts and other preparations such as mortadella distributed to supermarket is still rather marginal (8% of the total meat consumption) and is supplied by the MESH.

**Figure 14: Chicken meat value chain – direct agents.**



Source: based on Competitiveness of Syrian Chicken meat Value chain, NAPC 2010.

The current chicken meat market conditions are unfavorable to the development of the modern slaughtering industry and beyond to the expansion of practices that respect international sanitary standard at each stage of the system. The relative isolation of the Syrian domestic market from the regional and world market combined with the current consumers' preferences and quality requirements result in the prevalence of the MASH sub-systems in the chicken value chain. These market conditions explain that, even though competition prevails within the labor intensive MASH sub-system, where numerous agents compete at each stage of the value chain, there is limited incentive and room for the emergence and the strengthening of a chicken meat production value chain that would meet international standards.

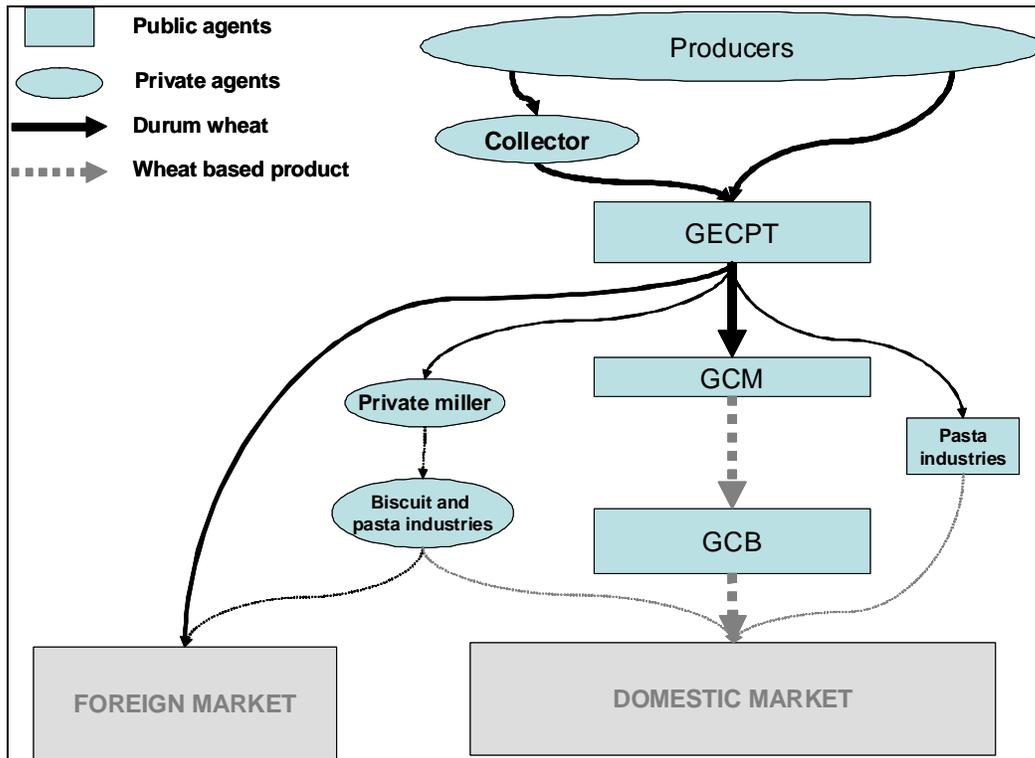
### 2.2.3 Public driven durum value chain

Durum wheat is considered as strategic commodities by Syrian authorities contributing to the country food security. Thus, the durum value chain is organized around the CECPT who has the monopoly for marketing all type of wheat. Durum is collected at GECPT marketing centers distributed across the various producing areas. Large producers are selling directly at marketing centers, while the smaller ones sale to wheat collectors that resale the product in bulk at the official price at the marketing centers. GECPT managed the storage of the durum, a key functions for the execution of the food security strategy and its distribution to the various types of customers. The largest share of the durum collected by the GECPT is still sold to General Company for Milling (GCM), the public company in charge of producing flour at a subsidized price for the General Company for Bakeries (GCB), the third public company in the durum/bread value chain that produce bread sold at official price. With the reduction of the share of the durum wheat, from 50% to 25%, in the production of the so called “integrated flour” used by the GCB, the demand for durum from the GCM is shrinking, giving more importance to other possible destinations.

The demand from the private milling and pasta industries is still marginal in the GECPT allocation as it represents only 5% of the total GECPT deliveries. This outlet may expand rapidly in the coming years as private pasta industries processing capacities has expanded from 5.4 millions tons in 1998 up to 14.7 millions tons in 2007. The demand from the public pasta industries is even more marginal as its capacity has only increased from 0.9 to 1.3 during the same period.

Exportation is used by GECPT has a mechanism for managing the level of durum stock, rather than as a strategy for maximizing the value of Syrian durum production. This is reflected in the high variations of the export volume notes in the previous section.

**Figure 15: The durum value chain structure**



Source: based on Competitiveness of Syrian durum value chain, NAPC 2010.

The increasing soft wheat and durum production allowed the emergence of a private wheat based industry in Syria. Direct linkages between farmers and private mills are developing but remain marginal. The whole wheat system, including durum wheat, is primarily organized to achieve food security, the GECPT being the corner stone of this system, and leave limited space for internal competition between the public and private agents. While the Syrian durum wheat varieties has an undisputable reputation in terms of physiochemical properties, the current configuration of the value chain does not provide the incentive to maximize the benefit that can be drawn from this asset. This asset could be exploited either by the GECPT itself if durum export were used as a tool to increased its income, or either by the pasta industry. However the second option is more challenging as the Syrian pasta industry would have to compete with foreign competitors such as the Italian industries. The raw material (i.e durum) has certainly an impact on the quality of the end product (i.e pasta) but, the know how is also a key factors for the competitiveness of an industry, and the Syrian pasta makers may not operate in a context where they can make the best use of Syrian durum quality and potential.

#### *2.2.4 Correlation between trade openness and the level of competition*

The review of the configuration of the value chains used as a tool to characterize the level of competition shows that the demand conditions have great impact on the degree of rivalry that prevails in each value chain and, thus, on the incentives that can be generated to strengthen their capacity to compete.

Where exports and imports are allowed, competition prevails within the domestic market and promotes the emergence of agents that intervene on both the domestic and the regional or foreign markets. In this situation, even if the domestic market conditions may not constitute a “learning ground” for the value chain agents, the regional market can provide the incentive for improving the competitiveness of value chains targeting both domestic and foreign markets. The paramount policy objectives of food security in the case of durum and of food independency in the case of chicken have adverse effects on the potential evolutions of these two value chains where only partial competition prevails.

### **2.3 Factors conditions and cost based competitiveness**

The third category of factors that impact on competitiveness is the factors conditions that refer to the combination of the various inputs (raw material, energy...), labor, capital (equipment) within a given technology and practices (know how). This facet of the competitiveness is closed to the financial profitability comparing the value of the systems’ output to the cost of the factors involved in the production process. Even though, competitiveness cannot be reduced to, or a synonym with, profitability, the capacity of a productive system to be profitable is an essential indicator of its capacity to compete with other suppliers of the same good. Accordingly, a system that is profitable indicate that this value chain is able to operate in an environment that is defined, on one side by the costs borne by its agent, and on the other side by the market price corresponding to the consumers willingness to pay for this type of product. Last, but not least the analysis of the cost structure at the system or at the agent level is a mean to identify which types of services or inputs have a critical position in the productive system. The identification of these critical inputs leads to the investigation of the conditions under which these inputs or service are provided to the agents of the value chain that will addressed in the following section.

#### *2.3.1 Profitability level and sustainable competitiveness*

Across the five selected systems, the profitability of the three systems exposed to international competition, apple, potato and lentils is positive, meaning that under the current inputs costs and final output price, these systems are able to compete. This is confirmed on the domestic market sub-chain but also on the foreign markets selected as a reference.

For instance in the case of apple, an exporter that purchase apple at 24Sp/kg will be able to sell it 51Sp/kg on the Egyptian market, which yield a profit of 5SP/Kg after deducting the 22Sp/kg for marketing cost. This marketing cost include in particular the payment of the apple pickers wages (3Sp/Kg), storage cost (3Sp/kg) and the transportation cost (9 Sp/kg). These computation lead to a return on cost of 10%, while it should be noted that this does not take into account the value of the depreciation of the packing station

(fixed costs). At the farm level the return to cost (including the fixed cost for establishing the apple orchard) based on the computation of farm representative budget is much higher (around 100%, corresponding to a profit of 12Sp/kg for a total cost of 7 Sp/kg). However this estimation does not take into account the land value (or the opportunity cost of allocating the land to apple production) nor the risk associated with the apple production. The resources available to collect detailed information on cost didn't allow expanding the sample of interviewed farmers, and these figures should be taken as an estimate. However, they provide an order of magnitude of the profitability of each agent along the apple value chain and confirm that producing apple in Syria is a profitable business. It also justifies, that it is worth exploring ways and means to strengthen the capacity of the apple value chains agents to compete on foreign markets.

The situation for the potato value chain is rather similar although the profitability at the farm level is lower compared to the apple producers. The return on investment is about 30% for potato producers cultivating during spring season production, while the profitability is almost nil for the autumn season due to the seasonal variation of the price which is at the lowest level during this period. Hence, storage capacity is critical for ensuring a better matching of seasonal supply and demand and to get a higher price. The return to cost for a wholesaler who purchases potato during the pick season and resale it three months later is at 4%. Wholesalers complement their income by providing marketing services to potato producers, as a broker, on a fee basis that represents around 3% of the selling price to potato retailers; this ratio is equivalent to the share of the profit within the selling price. Although these profitability ratios are rather low compared to the return to cost recorded for agents in other systems they are coherent with the position of wholesaler that maximizes their earnings through the volume of product traded rather than through net margin increase. The situation of the potato in terms of profitability is comparable to the situation of the apple exporters; taking as a reference a batch of potato exported to Jordan, the return to cost for the trader is estimated at 13% (without the fixed cost).

The data collected for the lentil value chain would need further analysis to provide a consistent estimate of the value chain profitability. At the farm level, the return to cost is comparable to the one estimated for the apple production (around 100%). Even if the computational basis does not allow providing a reliable estimate of the profitability for processing and marketing functions, the dynamism of the lentil value chains support the assumption that profitability is not a major constraint for this system.

The profitability of the chicken meat value chain follows a different pattern in line with its dualistic configuration. At the top of the value chain, it is estimated that chicken breeders make a profit of 3.1 Sp per kg of live animal marketed which leads to a very low return to total cost (4.1%) compared to apple, potato and lentil production. The sensitivity of chicken breeding profitability to critical cost items will be discussed hereafter, however this low return to cost indicates the vulnerability of this component of the systems. In other words, chicken breeding under the current cost and marketing conditions might be very sensitive to external shocks. At the slaughtering stage the return to cost for MASH is also rather low as the total cost for producing one kilogram of meat is estimated at 107.9 while the selling price would be 108 Sp. When the offal are added, the value of the total output per kilogram of meat increases up to 113Sp, which means a return to total cost of 5.5%. In order to increase the profitability of the business, it is reported that MASH owners increase the weight of the output by soaking the meat which may add around 1Sp extra profit.

The MESH situation is worse than for the MASH as, according to the established representative accounting, the MESH units are not able to generate a profit under the prevailing situations. Taking into account the prevailing price for the chicken meat produced by Mash, (i.e. 108 Sp per kg), MESH losses 7 Sp per kg, while for a chicken meat price of 116 Sp per kg they are just able to break even (profit of 0.21 Sp per kg of chicken meat, including the offal). The major constraint for the profitability of the MESH industries is the lack of market outlet that does not allow them to operate at full capacity. The above estimation was made on the basis of a unit processing 20000 chickens corresponding to 4 hours of operation per day, while according to MESH managers it would be possible to be profitable if the production operated at least for 10 hours per day. The access to a foreign market is therefore a critical issue

for the MESH, since the Syrian average consumer does not have the capacity to afford a higher price for chicken meat.

A preliminary overview of the chicken meat prevailing prices across the region shows that a kilogram of meat is retailed at around 130 Sp on average, a price that is commensurate with the price required to for the Syrian MESH industry to be profitable, provided that they have the authorization to export. However it is estimated, based on a transaction with Iraqis customers reported by one manager, that the additional cost for exporting chicken meat are: 18 Sp per kilogram of meat for the freezing and packing and the transportation cost and, at least, 8Sp per kg to deliver the product; thus the competitiveness on neighboring markets of the Syrian MESH on cost/benefit basis seems to be rather weak.

**Table 5: Chicken meat retailing price across the region in 2009 in Kilogram**

Country	Syria <sup>3</sup>	Jordan		Saudi Arabia		Egypt	
Currency	Sp	Sp	Dinar	Sp	Saudi Rial	Sp	Egyptian pound
<b>Price of 1 Kg of meat</b>	125	130.42	2	129.67	10,5	129.6	16

Source: Competitiveness of Syrian chicken meat value chain, NAPC 2010.

### 2.3.2 Critical costs items.

Beyond the overall profitability of the selected systems, the cost analysis allows to pinpoint specific costs items that weight heavily on value chain performances. Looking at the cost structure the following issues have been taken into account to assess the profitability of theses value chains.

For the chicken meat value chain, animal feed represents 66% of the total cost borne by the chicken breeders. Considering that breeders' cost represent around 90% of the total cost at the system level, it is clear that animal feed cost is a major determinant of the competitiveness of the chicken meat value chain, for both sub-systems: the MASH and MESH. While Syrian cereals production is mainly targeting food security objectives, the animal feed supply (corn and soybean in particular) depend almost entirely upon imports. This vulnerability of the Syrian chicken meat value chain has been particularly well illustrated by the price surge on the maize international market in 2007. In terms of competitiveness, this may not constitute a constraint for the Syrian chicken meat producers when they compete against chicken meat value chains located in the region and that face the same feed dependency constraint. However, it is certainly a disadvantage if the MESH sub-system aims at competing against Brazilian, European and North-American competitors on the regional markets that rely mainly on imports for their chicken meat procurements (Saudi Arabia UAE and Kuwait). The major world chicken exporters may be more competitive if they benefit from cheaper sources of feed, however the maize international market is rather competitive. The competitiveness of world chicken exporters may be structurally enhanced because the chicken breeding farm are located nearby feed producers; in terms of transport cost effectiveness it is more profitable to ship a product that has a high added value such as frozen chicken meat rather than a raw agricultural product such as maize. However, the feed cost structure might not be a paramount constraint for the Syrian MESH sub-systems which lack mainly of sustainable outlets.

The purchase of the Day Old Chicken (DOC) is another important cost items for the chicken breeders, representing around 17% of its total cost. The issue of potato seeds is similar to the DOC as it is both an important item in the cost structure (from 22 % to 45% of the total potato farmers' total costs according to the cropping system) and also the major determinant of the quality of the value chain final output. The condition under which these critical inputs are supplied to the value will be addressed hereafter within the section on supporting services and policy priorities.

<sup>3</sup> [http://www.sadasoria.com/arabic/page-select-id-show\\_det-17-15205.htm](http://www.sadasoria.com/arabic/page-select-id-show_det-17-15205.htm)

### 2.3.3 Potential “Policy rewards” to durum quality.

The issue of durum cost based competitiveness is particular since this value chain is mainly driven by public institutions, GECPT and GMC, in charge of implementing the national policy for food security. This translates into the enforcement of a combination of administrative prices and subsidy at different level of the durum value chain. The durum wheat price is fixed by the government and corresponds to the price paid by the GECPT to large farmers or collectors delivering durum at its buying station. Further down the value chain the collected durum is sold by the GECPT to the GMC at current cost (without any net margin) and the GCM is receiving a subsidy from the Syrian public budget to reduce the cost of the wheat flour used to produce bread at a subsidized price. Thus, a standard financial analysis of this public led value chain would not have the same meaning as for a private driven value chain. Accordingly, the proposed financial analysis rather looks at to what extent relying on the higher value of the durum wheat on the international market compared to the soft wheat could be an effective mechanism to reduce the overall cost of the wheat food security strategy. The analysis has been conducted in the context of the 2007 years price, before the wheat international price surge of 2008, because the price surge cannot be considered as a representative year.

Changes in the level of public subsidy to the wheat sector were compared for different scenario of soft wheat and durum exported shares and for different level of international price. The baseline scenario considers that no wheat is exported and estimates the level of subsidy required to balance the account of the wheat public agents at 33% of the total value of the GECPT/GMC sales. The first scenario considers that Syria has a surplus of 30% of soft wheat above the total domestic needs that can be exported on the world market. This would lead to decreases of the net ratio of public subsidy to the wheat sector from 33% down to 26%. If durum exports are substituted to soft wheat, with the same export share this would further reduce the net ratio of subsidy down to 24%. This decrease is due to the higher price get by the durum compared to the soft wheat; on average for the last ten years, the durum price is 13% higher than the soft wheat price. The last scenario assumed that given the higher physico-chemical properties of the Syrian durum price, it could get a higher quality premium on the world market, fixed at 30% of the soft wheat price. In this third scenario, the net ratio of subsidy would decrease down to 20%.

**Table 6: Assessment of wheat and durum exports changes on the level of public subsidy**

Scenario	Net ratio of subsidy
<b>Baseline - no export of wheat</b>	33%
<b>Scenario 1 - export of soft wheat</b>	26%
<b>Scenario 2 - export of durum only</b>	24%
<b>Scenario 3- export of durum only with high price reward to durum</b>	20%

Source: Competitiveness of Syrian durum value chain, NAPC 2010.

The impact of a specialization of Syria’s wheat export in durum on the level of public subsidy is not so significant (only 2% decrease on the net subsidy ratio). It should be noted that if the export earning in Syrian Pound from soft wheat where computed on the bases of market exchange rate (51 Sp for 1 USD) instead of the official exchange rate apply to GECPT transaction (46 Sp for 1 USD) the effect in terms of the decrease of the subsidy would be the same (i.e 2%). Along the same line, the return to investing in quality for exporting durum that gets a higher quality reward on the international market would be rather small in terms of net ratio of subsidy decrease. In this last case again, if the market exchange rate prevails rather than the official exchange rate, the net ratio of subsidy would be of 16%.

This limited impact of a specialization in durum export in the reduction of net subsidy ratio raises questions about the soundness of such a strategy for reducing the public cost of the food security policy. It also remains to be seen to what extent, the GECPT current organization would have the capacity to promote the expansion of high quality durum across wheat production areas, in order to target the high

quality demanding segment of the durum international markets (in particular pasta and biscuit factories in Europe).

On the contrary, if the durum was not any more considered as a strategic commodity as soft wheat, but open to private marketing and export, and assuming that a private marketing system would be as cost efficient as the GECPT one, the current average price reward to durum wheat compared to soft wheat on the international market would not make a significant difference to the price that can be paid to farmers; instead of getting 11300 Sp per ton of durum, the farmer could get around 12000 Sp. In this case they might be a stronger incentive to improve the quality of the durum produce in farmers' field to target the most profitable segment of durum world market.

## **2.4 Supporting industries services and policy priorities**

The competitiveness of a value chain does not rely on the efficiency of its direct agents only but, depends also on the effectiveness of the services and inputs supplied by the indirect agents to the direct agents. In this section we will review how this "supporting industries", in Porter's terminology, play their role efficiently. While, the State cannot be considered as having the same institutional status as a private indirect agent, it can be considered to a certain extent as "a particular indirect agent" to each value chain, providing or not specific services to their operations through public policies enforcement. It should be noted that public companies could be easily treated on this conceptual framework as indirect agent. We will first present identified constraints that are common to almost all the value chain reviewed and that may hampered the efficiency of Syrian agro-food value chains, while the following sub-sections will deal with cases that illustrate perfectly well the importance of supporting services for the chicken meat and potato value chains and conclude with the impact of the public policy on the competitiveness of the selected value chains.

### *2.4.1 Basic supporting services to agro food value chains.*

A numbers of indirect agents provide services and input to agents that can be considered as generic to agro-food value chains. Agricultural commodities under their raw and processed forms have two major features: they are bulky and for some of them perishable. Accordingly, the effectiveness of transportation services and storage facilities could be determinant for the performance of the agro-food value chains.

Syrian agricultural producers benefit from a rather good network of roads, thus transportation was not mentioned as a major constraint. Further more, for apple, potato and chicken meat products, primary production occurs in the vicinity of major urban markets, which means that transportation does not represent a major issue to reach the local, domestic markets. Although Syria geographical location provides to its agro-food agents a favorable position to reach regional markets, the situation is less favorable for the shipment of Syrian agro-food product to this regional market. While the studies didn't explore systematically this aspect of the agro-food trade, the lack of cooling containers for shipping frozen chicken meat was mentioned by the large MESH companies who have the opportunities to export a marginal part of their production to Irak. In order to export frozen chicken meat Syrian operators have to bring cooling containers from southern Europe, which increases the export shipment costs. Beyond an adequate supply of transport devices, access to effective transport services might be an issue; in the case of apple exports to Egypt, for instance, a trader mentioned that it was collaborating with Lebanese exporters to benefit from their better knowledge of the shipment services between Beirut and Alexandria.

Cold storage is a mean to adjust the seasonal supply of perishable products such as apple and potato to the permanent and regular consumption. The availability of cold storage capacities (owned and rented) either at the farm level or further down the value chain at the packing stations level, has not been mentioned as a particular constraints by the agent interviewed. Eventually, the quality of the packing material (boxes...) has been mentioned by several agents as a constraint for matching up end users quality requirements and for ensuring adequate shipment conditions (minimizing damages and losses due to handling and transport operations).

#### 2.4.2 From agro-food value chain to agro-food clusters.

Beside the provision of basic logistical services the studies highlighted the critical role play by the supply of specific inputs in the case of the chicken meat and the potato value chain.

The supply of the Day Old Chicken (DOC) is a critical input for the chicken breeders. The importance of DOC for the chicken meat value chain is not only due to its share of the total breeder cost (17%). DOC is a critical input for the breeder, because, like for seeds variety in the case of vegetal production, it embodies a number of technical features such as the fattening speed; these features are determinant for the technical and financial efficiencies of the chicken breeding. Animal breeds are developed in order to optimize the feed to meat conversion ratio using an adequate feeding formula and practices.

Instead of importing DOC produced abroad, the supply of DOC to Syrian chicken breeders is fulfilled by a few Syrian companies that have established their DOC production units within Syria through financial and technical partnership with North-American major poultry companies. The information collected from the managers did not allow to explain whether this pattern was a strategy developed by these global companies to overcome Syrian trade restrictions on the importation of DOC, and beyond to have an entry point into the Syrian chicken meat market, or if this strategy aims at benefiting of favorable conditions for DOC production in Syria. For instance, managers of these companies mentioned that within the Syrian context, DOC production units can be established in remote areas that provide advantages in terms of animal health management; this might be an important criterion for an agro-food sector marked by the recurrent outbreaks of avian flu. Developing DOC production in Syria is an entry point to the domestic chicken meat market, but can also be part of a strategy to reach the regional market within the GAFTA framework and in particular the fast growing markets of the Gulf countries<sup>4</sup>. This regional strategy might be pursued either through the production of chicken meat in Syria for the regional market or through the supply of DOC to chicken breeder in other Arabic countries. However, this alternative strategy (exporting DOC to the regional market) might be considered as a second best only as the only significant importers of DOC in region is Egypt which imported around 850 tons in 2009, 59% of the total DOC imports in the region (TradeMap, 2010). This second options, aiming at supplying the DOC regional market, does not seem so appealing as the Middle East DOC imports represent only 3% of the total DOC international trade.

Thus, the establishment of local DOC production units is likely a component of a broader strategy aiming at developing a comprehensive and integrated Syrian industrial chicken meat productive systems that could be rather define as a cluster than a value chain as the coherence of the system does not rely only on the vertical relationships between direct agents but also on the horizontal co ordinations and linkages between direct agents and their supporting industries. Eventually the value chain drivers are not the chicken breeders, nor the slaughtering house but rather the DOC producers that determine to a large extent the practices of the chicken breeder, and consequently the overall efficiency of the system.

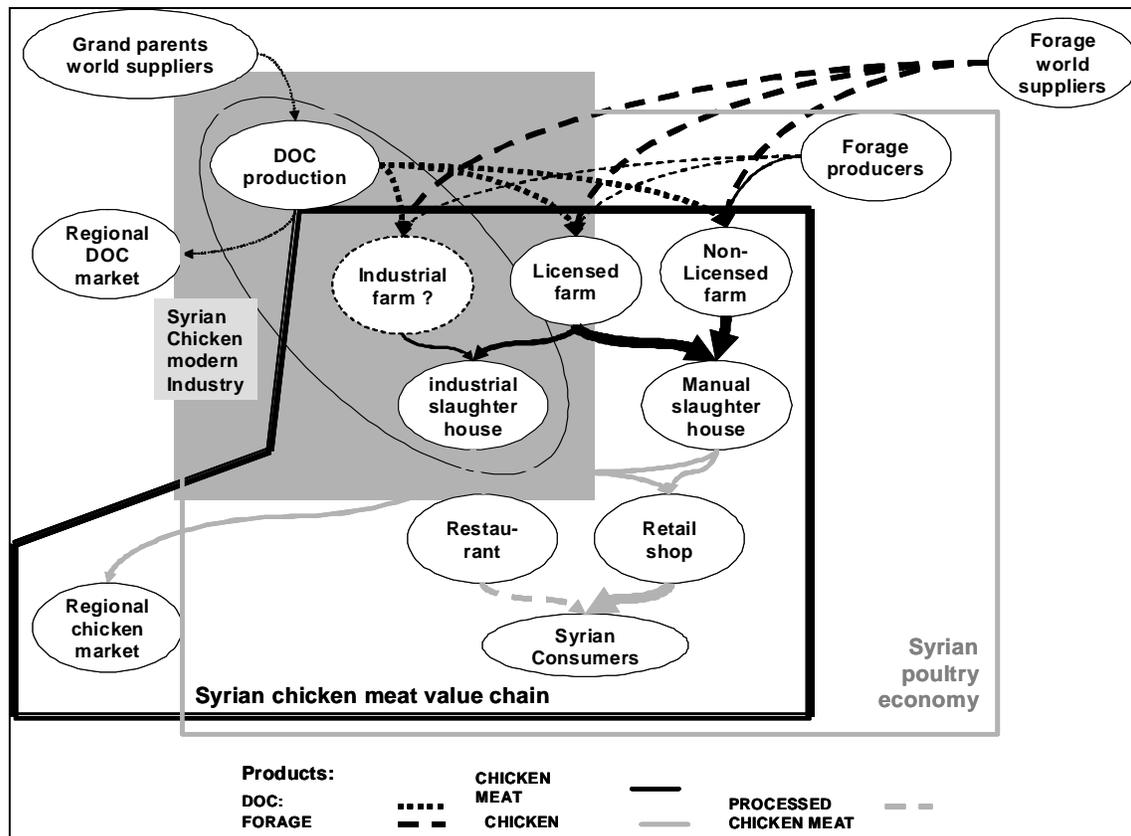
But, the viability of this cluster raises question given its configuration split into MASH and MESH sub-systems and the specificity of the Syrian chicken meat consumers' preferences (Figure 16). As a matter of fact, the DOC production units of these chicken companies are supplying both sub-systems, the one that is driven by the poultry companies, i.e the MESH sub-system, and the MASH sub-systems that have the larger share of the chicken market. This is a rather awkward situation, where poultry companies in the system have conflicting interests. On one hand they are benefiting from the demand induced by the chicken breeders delivering their output to the MASH, while on the other hand, their mechanical slaughtering capacities are not optimally used because they are not able to compete with the MASH. One way to get out of this contradiction could be to expand the demand for the MESH by allowing them to export their chicken meat production to the regional market; it remains to be seen if MESH could build up a competitive advantage on the regional market. Another possible outcome could be to radically enforce

---

<sup>4</sup> where the domestic production represent less than half of the domestic consumption, while most of the other GAFTA member countries are self-sufficient

sanitary norms on the Syrian markets at the expense of the MASH; this is a sensitive issue, given the employment generated by the manual slaughtering units.

Figure 16: The Syrian chicken meat clusters.



Source: based on Competitiveness of Syrian Chicken meat Value chain, NAPC 2010.

The potato value chain provides another illustration of the importance of the supporting industries for the competitiveness of a productive system. In the case of potato, seeds are the critical input. The variety of the potato planted by the farmer does not only impact on the technical and economical efficiency of the potato production (yield, resistance to pests...) but also on its marketability as a given variety will have specific cooking properties. In terms of market accessibility at the regional scale, exporters underline that a given variety might be preferred in a specific country. Eventually, the share of seeds in the total farmer costs ranges from 22% up to 45%. Before 2010, potato seeds import by private companies was banned in Syria and the General Office for Seed Multiplication (GOSM), public institutions, was only supplier of potato seeds on the Syrian markets. This organization of the seeds supply had adverse effects on the potato value chain in both, quantitative and qualitative terms. Firstly, the supply of potato seeds was not adequate in terms of volume and potato producers had to procure seeds from neighboring countries without fulfilling sanitary screening for planting material importation. Secondly, the varieties supplied by the GOSM were primarily selected for their agronomic performances (yield, resistance to pest...) and did not necessarily fit to end users and consumers requirements. According to the latest information collected during the study, potato seeds importations have been recently authorized (2010).

### 2.4.3 *Policy enabling environment:*

While public policies differ in nature from the simple and concrete supply of services and inputs to value chains direct agents, to a certain extent they can be treated alike. In methodological terms the rationale is to identify to what extent a specific policy or law has a positive or adverse effect on the competitiveness of the selected value chains. The impact of policy instruments and public actions on the competitiveness of the value chains can be gathered into major items.

A first range of issues deals with policies that have a direct impact on the profitability of the value chains through subsidy and tax mechanisms. This is a particular issue for the durum value chain that is a strategic commodity. From a competitiveness perspective, it can be stressed that the application of official prices might not provide the right incentives to the private agents (mainly farmers) involved in this value chain, as the price fixation mechanism does not intend to reward quality and efficiency but rather pursue other objectives such as support to wheat producers and the stability of the wheat supply. These issues have been reviewed in the above section on profitability. It should be noted, however, that the official price for durum wheat is slightly higher (in 2007) than the price for soft wheat. The higher uncertainty that characterizes this market following the wheat international price surge and draught of 2008 is not favorable to any radical changes of the current price mechanisms.

Market forces and competition between suppliers and buyers at each stage of the value chains is the prevailing mechanism for price fixation for the other value chains. In the case of the chicken meat value chain where public intervention remains important, there is still an indicative price published by the Ministry of Economy and Trade in consultation with the Ministry of Agriculture and Agrarian Reform and with a Central Poultry Committee formed by stakeholders designated by the Agricultural Chambers Union. This price is just indicative and non-biding, it is rather used as a ceiling price by traders purchasing chicken from farmers.

There is no specific subsidy allocated to the agents of the selected value chains aiming specifically to support their ability to compete with foreign competitors on the domestic or on the regional market. Apple traders mentioned that suppliers from other neighboring countries competing on the regional market benefit from such kind of subsidy.

Trade policy instruments such as import or export bans and tariffs constitute the second type of public driven mechanisms that shape the competitive environment of the selected value chains. As mentioned above, durum exports are under the control of the GECPT while the importation of chicken is banned and chicken exports are subject to government authorizations. While there were no specific trade intervention for apple exports, lentil and potato exports have been subject to temporary restrictions and bans in order to mitigate the impact of production shortage on the domestic market and prices increase. Trade restrictions pursued two main objectives: in the case of durum and chicken it might be considered as an instrument to achieve food security on the long term, because these products have an important position in the average Syrian diet; for potato and lentils these trade restriction are seen as a short term mechanisms to alleviate the effect of supply variations on price level. While, trade restrictions could be a component of a broader public led strategy aiming at building up the competitiveness of a value chain, there are not formulated along these lines in the five cases reviewed. On the contrary, rapid changes in trade conditions with a sequence of bans and opening of the borders have detrimental effects on the capacity of the value chains agents in building up their competitiveness. Trade rules uncertainty prevents Syrian exporters to strengthen their linkages with their commercial partners abroad. It, thus, reduces the potential positive spillover effects that regional trade could have on value chains agent capacity building endeavor for competing at the global stage.

The third areas where government actions can impact on the competitiveness of value chains regards technology developments on the up stream side and the enforcements of sanitary and quality standards on the downstream side of the value chains. As a legacy of the state led planned economy, public institutions are still the major suppliers of technology and innovation to the agro-food sectors. However, research priorities might not be defined in reference to competitiveness issues as it is illustrated by the case of potato seeds that have been primarily screened for their yield potential rather than for their marketability

and ability to fulfill consumers requirements; technical efficiency is a determinant of the competitiveness, but not the only one.

On the other end of the value chain, public interventions shape market configuration through the enactment of sanitary laws and quality standards. Quality and sanitary standards are legally established for most of the inputs used and outputs produced by the selected value chains, generally derived from international standards. But, here also there is a distance between the “theory” and the “practice”, there is a gap between the promulgation of a law and its enforcement. The chicken meat value chains provides a perfect illustration of this discrepancy, since the chicken meat produced by the MASH does not fulfill all the sanitary and quality requirement as defined by the law. However like in many other aspects of competitiveness, it is the end users that eventually provide the most powerful incentives in defining what is, and what is not, an acceptable quality. Hence, beyond the public health issue, which by itself justifies public intervention, the rather low attention given by value chain agents to quality issues is an indication of the lack of market incentives on this matter. Both domestic and regional markets may not be discriminating enough in terms of quality to be an adequate “learning ground” for the Syrian agro-food sector in terms of quality management. This is going to be a strategic area for capacity building (in benchmarking, good practices...) in the forthcoming years to strengthen the competitiveness of Syrian agro-food industries which may have to compete more and more with non-regional suppliers on the regional and even domestics market.



### 3 Perspectives for public policies and research

Competitiveness is determined by complex and dynamic process and cannot be reduced to a unique and static indicator of profitability. Changes in demand or factors conditions can rapidly threaten the viability of a value chain that was generating ample benefits beforehand. Therefore it would be misleading to formulate any policies aiming at supporting competitiveness along these terms. In the first section of this concluding part we will summarize the main lessons learnt from this analysis of the competitiveness. On the bases of this outcome the following section will propose actions that could be taken by the administration to address and support the reinforcement of Syrian agro-food value chains. The last section of this concluding section will propose topic that requires more attention in terms of competitiveness analysis to improve the quality of the decision making process.

#### 3.1 Lessons learnt from the case studies.

In order to synthesize in an orderly and consistent way the outcomes of the case studies, and to derive specific recommendations, a Strength-Weaknesses and Opportunity-Threat (SWOT) analysis has been carried for each selected value chain. An aggregated SWOT compiling the ones established for each value chain might not be meaningful, since the coherence of each table is specific to the context of each commodity. In the framework of this synthesis it is more operational to present the major findings from each study along the major categories of factors that determine competitiveness. Theses major determinants are present for each value chains in Table 7, where shaded cells indicates determinants that have an adverse effect on the competitiveness.

Referring to the methodological framework, demand conditions play a critical role in competitiveness building up. Looking at the five commodities, it is important to reiterate that the Syrian domestic market does not provide an adequate “learning ground” to the value chain agents for improving their competitiveness through the adoption of more efficient practices. This is due to both the dynamic of these markets and to consumers’ requirements. For instance in the case of apple and durum the per capita demand is decreasing, while for chicken consumers their limited capacity to pay for quality does not stimulate any up-grading of the main sub-system (i.e. the MASH).

Thus, exposure to international competition has a critical role to provide the required stimulus to the various agents. If the domestic market cannot be the “learning ground” for building up the competitiveness of the selected value chains, to what extent the regional market can play this role? Syrian agro-food value chains benefit from favorable positions within the GAFTA members countries for agro-ecological and geographical reasons; it is at the same time an importer from non-GAFTA countries and a producer of raw agricultural material and mainly an exporter of agro-food products (raw and processed product) to its GAFTA trade partner. This position reflect its relative advantage in both terms of agricultural production (mountainous and rainfed areas on its Mediterranean face and better access to water relatively to other Middle East countries) and the vibrant and dynamic development of its agro-industries since the early nineties. However the demand conditions are increasingly demanding in the GAFTA countries and consumers’ preferences put more and more emphasis on market related food attributes (packaging, homogeneity in the quality, regularity of the supply) where the Syrian agro-food value chains do not display a particular advantage. The apple value chain is a typical illustration of this pattern where the Syrian exporters put more emphasis on the middle segment of the market, leaving the higher market segment to their non-GAFTA competitors.

In terms of foreign market share, Syria has a significant foreign market share on two products: lentil and durum. However this position may reflect a dynamic competitive advantage of the Syrian value chain in the case of the lentil only, where agents have invested in technologies allowing them competing at the global level, while durum exports remains basically an outcome of the food security strategy.

In terms of structure of the value chains, the level of competition that prevails within the domestic market varies across the selected value chains. The constraint faced by the chicken meat value chain divided into two sub-systems has been already discussed above, while the situation of the durum value chain is specific. However, the competition that prevails on the domestic markets for apple, potato and lentil does not guarantee that these agents, or these systems are able to compete efficiently at regional scale and beyond at a global scale. Competition is considered as key component for promoting the capacity of the value chain agents to adapt, to learn and to innovate in order to better respond to consumers' requirements, or to consolidate their position on a segment of the market. However, it may not be a sufficient condition, in particular on the regional and global market, where Syrian exporters have to compete with companies from outside the region having a larger size, a longer and a broader expertise of international competitions than the Syrian ones. In other words, the rule of competition on a domestic market where marketing and processing functions are carried out as a routine will not be the same at the regional stage.

Firstly the limited size of the Syrian export companies hampers their capacity to influence market conditions on their target export regional market where competitions is more severe and where they have less market power than on the domestic one. This set up is not a major constraint for Syrian exporters as far as the domestic market is the major outlet of the value chain and the sub-chain targeting the regional market a simple marginal outlet. With the increasing importance of the foreign market, for apple for instance, it might become more difficult for them to expand, or at least to maintain their market share, without improving their positions on these regional markets. Enhancing their position on this foreign requires overcoming specific thresholds in terms of logistics, quality management and so forth that is often associated with economies of scale. Since the limited size of the Syrian domestic markets does not provide an enable environment for supporting the growth of these trading companies the other option for getting a better position on the regional market would be through an enhanced cooperation between exporters.

This so called horizontal coordination between agents performing the same function at the same stage in the value chain is weak in the Syrian context. This is observed at the marketing level but also at the production level. A few professional organization has been indentified, yet, such as the chamber of agriculture or chamber of commerce, but their role seems to be rather formal than operational or functional. The lack of private collective actions at different stage of the selected value chains was also revealed on the occasion of stakeholders meetings organized to discuss the outcome of the studies: most of the participants were assisting in their personal behalf rather than representative of a category of stakeholder. Although there is certainly some kind of cooperation between farmers for performing several tasks and occasionally between traders or processors, these collaborations are not systematic and likely rely primarily on personal and social relationships (family, social network). The development of co-opetition, as defined in business management sciences (Brandenburger A., Nalebuff B, 1996), is certainly a key challenge for the improvement of the Syrian value chains competitiveness. Co-opetition is a situation where agents in the a productive system simultaneously share material and immaterial assets, on one hand, and remain competitors for sourcing their raw materials or selling their outputs, on the other hand. Syrian exporters could share either advance packaging equipments, or means of transportation (cooling containers...) that each unit cannot afford to buy and operate efficiently on an individual basis; they could also invest jointly in immaterial assets such as brand, or quality control and grading, training in the mastering of new technology...

Non-market based coordination could also be extended to vertical coordination between agents along the value chain. While supplier-purchaser relations remain dominated by commercial transaction (contractual agreement or spot market exchanges) there are still limited actions to coordinate quality management along the marketing chains, which would allow strengthening the competitive advantage of the Syrian agro-food value chain.

Factors conditions issues have been addressed mainly in terms of the financial viability of the combination of production factors and related technologies at each stage of the value chains. The estimations of the financial profitability show that under the current costs conditions producing, trading and processing of apple, potato and lentil are profitable while the cost structure and the profitability of the

chicken meat industry is rather weak. While the assessment of the value chain costs structures allows identifying critical inputs and the capacity of the whole system to be profitable and thus financially viable under current market conditions, these indications are relevant at short term only. The 2008 international price surge for major agricultural commodities remind clearly that market conditions can be rather uncertain. However, market instability at the international stage may affect equally, to a large extent, Syrian agro-foods companies and their foreign competitors. Furthermore, while technical (yield at field level, recovery rate at the processing stage, losses minimizations) and financial profitability are important determinants of the competitiveness at short term, other features of the factors conditions can have a long term positive impact on the value chains' competitiveness.

Quality attributes of agro-food products that are not extensively processed (vegetables, fruits...) are heavily determined by the agro-ecological conditions under which they are cultivated and the bio-physical properties of planting material. Along these lines, apple production areas, located in elevated areas and durum Syrian varieties and growing condition may constitute a competitive advantage for the Syrian agro-food business. However these factors are currently only a potential as current strategies and priorities of value chain agents do not allow materializing these competitive advantage into actual benefit either in terms of market share or profitability.

Shortcomings in the field of supporting industries may constitute a majors constraint for building up the competitiveness of the selected value chains. Under the current business conditions they may not represent an impediment, but transport services, quality control, certification services, packaging industries are areas that would have to be reinforced in order to allow Syrian exporters to be able to aim at new market opportunities and to be able to compete with foreign competitors that benefit from more efficient supporting industries.

The policy environment plays also a critical role in the building up of competitive agro-food value chain. The main conclusions derived from the studies in terms of policy formulation will be discussed in the following sections hereafter. It should be noted however that sanitary and quality standard may not be easily adopted by the value chain agent. One of the major constraints induced by the policy environment is certainly the instability of the trade regulations; exporters' capacity to strengthen their business linkages with its trading partners is jeopardized by unexpected changes in trade regulation such as ban imposed on exports.

**Table 7: Determinant of the selected value chains' competitiveness**

Determinant of competitiveness	Apple	Potato	Lentil	Chicken meat	Durum
<b>Demand conditions</b>					
<b>Domestic market</b>	Decreasing per capita consumption	Stagnating per capita consumption	Decreasing per capita consumption	Expanding per capita consumption	Decreasing per capita consumption
<b>Foreign market</b>	Increasing competition on regional market	Increasing competition	Key player on the regional	Limited opening of the regional market	Key player on the world market
<b>Sector structure and rivalry</b>					
	Limited private collective actions	Limited private collective actions	Limited private collective actions	Dualistic structure	Limited competition Public control
	Competition prevail	Competition prevail	Competition prevail		
<b>Factors conditions</b>					
	Favorable agro-ecological conditions		Know how	Feed costs	Variety
	Profitable	Profitable	Profitable	Low profitability	
<b>Supporting industries and policy environment</b>					
		Evolving seed sectors		Feed costs.	
				DOC industry	
Uncertain trade policy					

In the methodological introductory section it has been underline that defining an undisputable and comprehensive indicator of competitiveness is a challenging and unfinished research agenda. While it is not possible to compute such an indicator, it is still possible to rank the five selected supply chains in terms of capacity to compete with foreign suppliers of similar goods either on the Syrian domestic market or on foreign markets. This ranking is based on an assessment, combining the status of each value chain with respect to the determinants of competitiveness as listed in the Porter's diamond.

Firstly, a clear distinction can be made between value chains that have already demonstrated their capacity to export and the one that have not proven capacity to maintain foreign market shares. Along this first criterion, chicken meat value chain would be less competitive than the four others. A second, stage of ranking could be carried out on the basis of the position of Syria exports on the international trade. On this basis, lentil and durum would have a higher competitive advantage than apple and potato, even if durum export is not mainly driven by commercial objectives. Along this categorization lentil and durum would have a higher level of competitiveness than apple and potato, while chicken meat production would be the less competitive value chains. Thirdly, in terms of profitability, apple and lentil value chain benefit of the highest profitability, followed by the potato and the chicken meat value chain; the durum case is specific as its prices are controlled by the public authorities.

Given the dynamic nature of competitiveness, these first rankings based on quantitative or observed information have to be adjusted with respect to the challenges faced by each value chain to further strengthen or maintain their competitiveness. In term of possible future, durum value chain would have to go through considerable adjustments and organizational changes to fully exploit and consolidate its potential in terms of competitiveness, the current level of exports being determined mainly on the basis of the level of stock and food security objective. Strengthening the competitiveness of lentil, apple and potato value chain might be much easier and feasible than for the durum value chain. It might be even more challenging to reconcile contradicting interests between the MASH and the MESH sub-systems to conceal efficiency, quality and sanitary standard enforcement and employment generation objectives.

In short, in terms of ranking or relative terms the most competitive value chains would be the lentil followed by the apple and potato, while the least competitive would be the chicken meat; the position of the durum is more difficult to determine given its specificity.

### **3.2 Formulating and implementing enabling public policies**

The Syrian agro-food sector has already acknowledged significant changes during the last decades within the momentum of the structural economic reforms initiated since the 90's.

The liberalization processed is supposed to generate the required incentives to stimulate the development of production that can be competitive. However these structural reforms such as trade opening and the gradual enforcement of market based mechanisms generate new challenges to the Syrian farmers and agro-food business companies.

The changes of paradigm from a planned to a market based economy does not means that public action is not any more required and justify within an open economy setting, the issue being to reformulate the new agenda for public policy. Beyond the issue of their incompatibility with trade agreements articles, "classical" policy instruments such has subsidy and tariff have not proven to be effective for enhancing the viability of any productive systems as far as they are not complemented by other public actions. In the Syrian cases, the limited sizes of the domestic market further reduce the effectiveness of such type of "classical" policy measure which intends to restrict competition within the domestic market. Direct subsidy or implicit subsidy through administrative price fixation are neither more sustainable in the long term given their implications for the public finance equilibrium. "Classical" policy instruments enforcement should be kept for strategic commodities, while public investment and support to other agro-food products could be justify only as transitory measure that would help a given sub-sector or value chain to build up its competitiveness. Thus, whether or not, a given commodity is protected public action for improving the competitiveness of its associated value chain will go beyond tariff and subsidy.

The establishment of the GAFTA has certainly increased market opportunities for the Syrian agro-food sectors but it is also enhanced the level of competition given that several market of the sub-region were already supplied by non-regional, European, North and South American or Asian suppliers. Syrian public policy can contribute to enhance the competitiveness of the agro-food sectors through various ways.

The formulation of public policy that will contribute to materialize the competitiveness potential of Syrian agro-food value chains should have a long term perspective. Changes in agents' behavior and organization, technology improvement require a clear and durable orientation of the policy environment and priorities.

A primary requirement is to mitigate the uncertainty that surround value chains agents, mainly due to agricultural markets volatility and agricultural production agro-climatic risks, but worsen by the trade policy unpredictability. This, a first constraint that can be addressed by the government by reducing the uncertainty induced by the rapid changes in trade policy that affect the capacity of Syrian exporter to build up long term strategies and to consolidate market linkages. Beyond the stabilization of the market conditions, public policy can strengthen the competitiveness of the Syrian agro-food value chain by increasing agents' capacity in competing with foreign competitors.

Like for any other economic sectors, agro-food value chains will benefit from the improvement and public investment in manpower, knowhow and educational level. Public funded research also play an important role for improving competitiveness, but beyond the classical objectives assigned to agricultural research such as resources use efficiency and yield maximization, public research objectives should also target end users preferences. Furthermore national research might not be viewed as the major source of innovation and technology, like in the case of the potato seeds or chicken breeds; importing technologies that already fit to factor or market conditions might be much more efficient. Public policy could support technical changes at all stages of the value chains through adequate credit mechanism, provided that these investments will actually reinforced the competitiveness of the targeted agent. Public credit can be instrumental in allowing technical change as they can provide resources within a longer term, allowing the required learning process to master new technologies or business practices.

Competitiveness, as already emphasized, is not only a question of costs and technical efficiency, it also a matter of knowledge of the value chain market conditions and organization. By nature, market knowledge is considered as a private asset by any agents of a value chain, but it doesn't mean that they have the capacity to individually invest in improving their knowledge of market structure and changes, at the domestic level and of course at the international level. Furthermore, this individualization of market information result in a partial knowledge of market conditions by each individual agent that may hamper their capacity to better respond to market opportunities or to anticipate any threats. Since it is not obvious for a private agent to share its information, public institutions could play a critical role in gathering, analyzing and releasing market information. Market information encompasses a broad range of aspects that goes beyond price information. Public institutions may not have a competitive edge in collecting and disseminating prices, since these category of observation have a very short shelf life. In addition, beyond the issue of price dissemination, the actual issue is whether the agent receiving price information is actually in a position to use it effectively. If transportation is not available a farmer or a trader may not take any advantage in knowing the price in a distant market. Public institutions can provides information about the market structure, trends, technical issues and trade regulations. Having a better understanding of the market conditions abroad might assist exporters to better identify their market segment or prepared to shift to new segments. For instance the diffusion of the reports produced on each case analyzed for this study, could help each agent of the covered systems to understand how the whole value chain is operating and how constraints faced by agents acting at another stage of the chain have adverse effects on their own situations. Having, more insight into the cost structure of a value chain could also improve the recognition that the performance of a category of stakeholders could be affected by changes in input costs upstream and output value downstream. Along the same line, realizing that unsatisfactory quality management at a given point of the value chain affect the capacity of an exporter or a retailer to target a more profitable market segment could incite producers or wholesaler gathering the product to improve their practices. Producing and disseminating information that the private sector cannot generate might be critical to

enhance agents' awareness on issues related to competitiveness. But, being aware of an issue does not mean the response can be implemented on an individual basis.

In terms of value chain structure, it has been emphasized that even if competition among agents is an incentive for being cost efficient, it can also be detrimental, as it may prevent them to access to material and immaterial resources that they cannot afford individually. While in terms of vertical coordination there are contractual agreements between value chain agents, the four studies (the durum case being specific) confirmed the weaknesses that prevail in terms of institutions that would facilitate the formulation and implementation of private collective action. In this field, public action cannot replace individual commitment and willingness to cooperate, but, public institution can play a catalytic role and facilitating role in promoting such type of institutional arrangement. The release of information can be a mechanism that could incite stakeholders to deliberate about issues that cut across their individual interest, such as quality standard, foreign market requirements, access to support services. A first step has been taken along this way with the establishment an "Exports Development and Promotion Committee" within the "Syrian Exporters Association", but these institutions are too broad in scope, as issues varies between agro-food and manufactured goods, and they are still operating as an interface between the public administrations and the private sector rather than a tool that will result in a better coordination among a category of agents of a specific value chain.

The organization of consultation on the formulation of regulations that impact on the business environment (taxes, tariff, standard...) might be another venue to promote the development of such institutions. For instance, such type of organization could play a critical role to define a way to solve the opposing interest between the MESH and the MASH in the chicken meat value chain. At the ultimate stage, such organizations established on the basis of the type of agents (farmers organization, trader organizations, exporters organization...) could interact in the framework of so called inter-professional organizations that will cover the entire value chain and allow to improve vertical coordination through alternative mechanisms to the market based classical one. For instance, such type of vertical organization can be critical to formulate and develop best practices and quality standards. For instance, if Syrian apple competitiveness on foreign markets could be enhanced through quality improvement, this will depend upon collective actions mobilizing all categories of agents and require a discussion on how rewards and penalties to quality would be transmitted along the value chain.

### **3.3 Priorities areas for analytical support**

This study has been carried out with the double objectives of knowledge generation about the determinant of the competitiveness of selected agro-food value chains and capacity building of the NAPC staff in this field of expertise.

In terms of knowledge generation there is a need to further consolidate these first outcomes of the five studies. The sample of agents interviewed has been adjusted to the resources available and, for instance, cost estimation might be further validated through additional data collection. A more details analysis of technology requirements and practices applied by value chain agents at each stage of the process could provide additional insight into the critical input and the associated strategic support services. The first set of results obtained from each case could be use to stimulate the interest of strategic agents in sharing their knowledge about the current situation of the selected value chain. The organization of stakeholder meetings by major categories of agent (producers, traders, processors) where these first set of results will be discussed could assist in selecting areas that should be further investigated to build up a more robust and relevant analysis of the determinant of the competitiveness. These stakeholders meetings could also be used also to demonstrate the needs to set up organization that will provide a permanent platform to pursue this dialogue among the value chain agents and with public institutions. The NAPC can play a critical role in the establishment of this value chain policy dialogue through the provision of balanced analysis taking into account the perspective of each category of agents, and by providing a rather neutral place to trigger these exchanges.

Competitiveness is defined as a relation between the national economy and its international environment. In the framework of this study, information on the international and regional environment has been gathered mainly from secondary sources available on the World Wide Web and from the interviews with Syrian exporters. A better knowledge of foreign markets is critical for assessing the capacity of the Syrian agro-food complex to compete on these markets. Therefore it might be considered to enhance the knowledge base on these markets through study tours in strategic markets in the region or through collaborative research with research institutions based in these countries.

The dynamic of the local demand is also a key issue for analyzing the interaction between the dynamic of the local and the foreign market. For instance it would be highly relevant to have more comprehensive and in-depth understanding of Syrian consumers' preference for different types of chicken meat and their willingness and ability to pay for a product of higher standard. The same issue may apply for other product.

In terms of capacity building, an analytical framework has been proposed for this study, however the configuration of agro-food value chain is rather complex and differs from one another. It means that the weight of each category of determinant varies from one situation to another one, which implies that a method cannot be applied uniformly. It is therefore important for the NAPC staff to further pursue their practice in order to build up gradually their own expertise. In order to do so and given the rather high diversity of situation encounter it might be suitable to promote a certain level of specialization of each NAPC agents in one category of agro-food products (coarse grain, fruits, oil, sheep, dairy product...). This would facilitate the interactions between NAPC staff and value chain agents and thus the capacity of the NAPC to contribute to the policy dialogue on competitiveness.



## References

- Abbott P. & Bredahl M., 1992, Competitiveness: Definitions, Useful Concepts and issues, Paper presented at the International Agricultural Trade Research Consortium's Symposium on "Competitiveness in International Food Markets", Annapolis, Maryland, August 7-8, 1992.
- Brandenburger A., Nalebuff B., 1996, Co-Opetition : A Revolution Mindset That Combines Competition and Cooperation : The Game Theory Strategy That's Changing the Game of Business Doubleday, 1996.
- Esterhuizen, D., 2006, An evaluation of the competitiveness of South-African agribusiness sector, PhD Thesis, University of Pretoria
- Gereffi, G. and Korzeniewicz, M., (éds), 1994, Chains and Global Capitalism, Greenwood Press, Westport, CT
- FAOSTAT, 2010, <http://faostat.fao.org/>
- IMD, 2010, World competitiveness yearbook,
- Karkout, M., 2006, The Recent Evolution of the Syrian Agro-Food Industry, NAPC Policy Brief n°8, 11p.
- Kennedy P. L., Harrison R. W., Kalaitzandonakes N.G., Peterson H. C., Rindfuss R.P., 1997, Perspectives on Evaluating Competitiveness in Agribusiness Industries, Agribusiness, Vol. 13, No. 4, 385–392
- Krugman P., 1994, Competitiveness, a dangerous obsession, Foreign Affairs, vol 73, n. 2
- Mann, L., 1999, Is the US Trade Deficit Sustainable ? Peterson Institute for International Economics, Washington, accessible at: [http://www.petersoninstitute.org/publications/chapters\\_preview/47/7iie2644.pdf](http://www.petersoninstitute.org/publications/chapters_preview/47/7iie2644.pdf)
- Martin L., Stiefelmeyer K., 2001, A Comparative Analysis of Productivity and Competitiveness in Agri-food Processing in Canada and the United States, George Morris Centre
- Monke A. and Pearson R., 1989, The Policy Analysis for Agricultural Development, Cornell University Press
- NAPC, 2007, The State of Food and Agriculture in Syria 2007, NAPC, 212 p.
- NAPC, 2010, Competitiveness of Syrian apple value chain, draft version
- NAPC, 2010, Competitiveness of Syrian potato value chain, draft version
- NAPC, 2010, Competitiveness of Syrian lentil value chain, draft version
- NAPC, 2010, Competitiveness of Syrian durum value chain, draft version
- NAPC, 2010, Competitiveness of Syrian chicken value chain, draft version
- Porter, M.E., 1990, The Competitive Advantage of Nations, Havard, Business Review, March-April, 1990
- SADB, 2019, The Syrian Agricultural Database, <http://www.napcsyr.org/sadb.htm>
- Syrian Prime Minister Council & UNDP-Syria, 2007, "The First National Competitiveness Report of the Syrian Economy 2007. UNDP, 2007, The first National Competitiveness report of the Syrian Economy, UNDP Syria and the Prime Minister Council.
- TradeMap, 2010, International Trade Centre (ITC), <http://www.trademap.org/Index.aspx>
- World Economic Forum, 2010, The Global Competitiveness Report 2009–2010