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Study of the Export Potential of Some Agricultural Products at the Cap Bon Region, Tunisia

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Abstract: *With regard to recent progress of international trade agricultural sector in Tunisia, reacted through numerous cooperation agreements with international market. The purpose of this research is to study the export potential of some agricultural products in Cap Bon region. The methodology consists in defining the different production systems and identifying the factors that influence the export of agricultural products meant for the surveyed farmers. We identified the different production systems. We found out that production system of small farmers are fragile, which would explain the export constraints. Then, we established a sampling of three most prevalent products in order to corroborate their conformity to quality and marketing standards. The results showed dissimilarity between the different categories of farmers: rich farmers have better quality products. Finally, we aimed to perceive the tendency of farmers to export their products. Some farmers are reluctant towards exporting due to high production cost, lack of manpower and irrigation water and deficiency of conformity of agricultural products to marketing standards.*

Keywords: *Export, Cap Bon, Production system, Marketing standards.*

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I. Introduction

Considering recent progress of international trade within the current economic environment, a global economic conjuncture is required. The agricultural sector in Tunisia reacted through numerous cooperation agreements Such as: Deep and Comprehensive Free Trade Agreement (DCFTA) and Greater Arab Free Trade Area, GAFTA.

These partnerships are quite advantageous and widely open to the international market. Besides, agricultural production has undergone a remarkable evolution in recent years. More to the point, the Cap Bon region is among the best agricultural areas in the country. However, the export of some agricultural products has only a very small share with respect to production.

This study is established in order to assess the possibility to launch a Project partnership between: Fresh Del Monte Tunisia and Agricultural Development Group of Lebna-Dam region and Korba region. An analysis of the potential export of some products is need and is object of this research.

In other words, this work aims to characterize the different production systems in the Cap Bon region in order to study the export potential of different agricultural products in the region. And this by applying at the first step a survey of farmers in the region to characterize the different farming systems adopted by the farmers surveyed and at a second step by applying a sampling of the affected products to ensure their compliance with the marketing standards.

In order to reach these main results: characterization of production systems, conformity of agricultural products to minimum marketing standards, marketing of agricultural products in the study areas. (Figure 1)

Figure 1. Cap Bon region (Nabeul Governorate), Tunisia.

II. Methodological Framework

Therefore, to study the export potential of some agricultural products in the Cap Bon region at two zones, namely at the irrigated public perimeter of Lebna-dam and at Korba delegation we needed a three-steps methodology was conducted. At first, the survey was conducted using a specific questionnaire in order to identify the socio-economic characteristics of farmers and land tenure classification of farmlands. Then, the main data collected are related to identification of the crop system to assess the quality of the products in the selected regions. In order to check the conformity with international market standards, detailed analysis were done for three agricultural products (fennel, onion and strawberry) using sampling procedure of fennel, onion and strawberries of some farmlands to study the conformity of these products with international marketing standards. For this, we used the statistical analysis: SPSS software version 17 in order to compare the averages of different dissimilarities between products. We used 1-way ANOVA procedure. Also, the Tukey test at 5% significance level was used to assess the compliance of individual averages and to classify the analyzed samples into homogeneous groups. At the third step, we used the farmers' survey to assess the export experience and willingness of farmers related to this products. The due project partners are: Fresh Del Monte Tunisia is the subsidiary company of Fresh Del Monte Produce which is one of the vertically integrated producers specialized in the distribution of fresh and processed fruits and vegetables the most important in the world. The second partner is the agricultural development group (ADG) Lebna-dam, created in 1999, has 117 members in 2017.

The study areas whose products are required for the project partnership are: the irrigated public perimeter IPP Lebna dam which is part of El Mida delegation located at the governorate of Nabeul. It covers an area of 450 ha, of which 360 ha are irrigated. In this first study area we visited 25 farmers out of 117, that is to say a 21% rate of interviewed farmers. The second study area is the delegation of Korba, The agricultural area is 17710 ha, the irrigated area has 5887 ha. In this second study area we visited 30 farmers out of 242, thus the rate of analysis is about 22%.

III. Results

The main results relate about: characterization of production systems, conformity of agricultural products to minimum marketing standards and marketing of the agricultural products of the study areas

1- Characterization of production systems at the two study areas:

1-1- Characterization of production systems at the irrigated public perimeter of Lebna.

We cite some socio-economic characteristics of the farmers surveyed in the irrigated public perimeter (IPP) of Lebna: age, education, farming training, pluriactivity …

Land tenure is different among farmlands. In fact, most owners with an area between 2 and 4 ha, 66% of the farms tenant (rent) have an area between 1 and 2 ha, 60% of sharecrop farms with an area between 2 and 4 ha and 50% of the public land users have areas between 2 and 4 ha. More than 80% of the tenant farmers practice mainly market gardening (2-3 crops/year) in order to maximize their earnings. Landowners,

sharecroppers and public land users have a mixed cropping system that combines market gardening, field crops, livestock and forage crops. The dominance of the production system based exclusively on market gardening, especially for tenants, and the low percentage of livestock farming among farmers in the region, lead to a massive demand for manure from neighboring areas (for over 60% of operators). In fact, given the lack of livestock manure, nearly 75% of farmers use poultry manure, while only 9% use livestock manure. This is because the price of poultry manure is lower than the price of livestock manure. It should be noted that the use of non-certified manure is a handicap for the export of agricultural products.

According to our field survey, we note that plots cultivated areas, either by fennel or onion, do not exceed 1 ha. This can be explained by the fact that most farmers have small farms between 1 and 2 ha and adopting a biennial and triennial crop rotation system. Indeed, most farmers adopt a biennial rotation based on winter market gardening (onion, fennel, carrot, potato ...) and summer gardening which is based on Solanaceae family mainly pepper and in-season tomato. Moreover, most of the surveyed farmers in the Lebna IPP lead fennel cultivation without any phytosanitary treatment while onion cultivation with only one preventive treatment against the late blight (Phytophthora infestans) and sometimes against the botrytis.

1-2- Characterization of production systems at Korba

Likewise, the socio-economic characteristics of the farmers surveyed in the Lebna IPP: age, education, farming training, pluriactivity …

Land tenure among the surveyed farms at Korba is as follow: landowners are 27%, tenants are 53%, sharecroppers are 10% and Public land users are also 10%. Small farmers, having a farm less than 2 ha, represent 40% of the total farmers. Farmers having an agricultural area between 2 and 10 ha are called middle farmers and represent 27% of the surveyed farmers. While 33% are the big farmers and they have an area larger than 10ha. Most of farmers who have middle and large-sized farmlands adopt a mixed cropping system combining several crops, while farmers who have small-sized farmlands adopt a cropping system based mainly on market gardening crops.

It can be noted that a massive use of manure is quite common at more than 70% of surveyed farmers, of which 64% use poultry manure and only 23% use livestock manure. This is mainly due to the low percentage of farmers adopting livestock farming which has generated excessive demand for manure from neighboring regions in Korba.

According to our field survey, the cultivated area of strawberry varies between 0.3 ha and 10 ha. In addition, farmers can be divided into 3 categories: small producers with areas of strawberries less than 1 ha, middle producers with areas of strawberry between 1 and 2.5 ha and large producers those with area greater than 2.5 ha.

The survey results show that the number of phytosanitary treatments varies between 4 and 12 chemical interventions per crop cycle. It is noted that most of large farmers respect the phytosanitary treatment dose and the pre-harvest interval while most of small farmers do not respect neither the phytosanitary treatment dose nor the pre-harvest interval.

2- Conformity of agricultural products to minimum marketing standards

2-1- Fennel cultivation

The classification of the finished product of fennel, based on observations and measurements carried out on the plot (namely: size, diseases, bulb shape, coloration...) shows a difference in the quality of the product between farms. Indeed, we find that for tenants, the fennel is declassified mainly because of diseases, size heterogeneity and partial discoloration of the foliage probably due to deficiencies in mineral elements. On the other hand, among the other categories of land status, the existence of diseases and size heterogeneity are the main constraints.

Thus, the results show a significant difference between the different categories of farmers surveyed in the compliance of fennel with the minimum standards of marketing and quality control of the European Union. Indeed, the public lands users recorded the highest percentage of compliance, likewise for the sharecrop farmers and the owners, while for the tenants the majority of the product was downgraded out of standards.

2-2- Onion cultivation

It can be noted that the off-standard onion classification factors are mainly: diseases, color defects, bulb deformation and size heterogeneity. These factors vary from one farm to another. Indeed, there is a high rate of product disease among tenants. Besides, bulb deformation and size heterogeneity are quite common among all categories of farmers. Thus, the obtained results show that onion compliance with minimum marketing standards varies according to the land tenure status of farmers. Indeed, the technician lots have the highest compliance percentage with over 75% compliant onion. Then, the owners and sharecropping farmers are ranked

second and third respectively. For tenants the onion compliance percentage is low compared to other categories and does not exceed 50%.

2-3- Strawberry cultivation

We note that the classification factors for non-standard strawberries are numerous, including: diseases and rots, color defects, fruit deformation and size heterogeneity. These factors vary according to land tenure status of farmlands. in fact, there is a high rate of strawberry diseases and rots at most farms, with a high proportion among small farmers, as well as fruit deformation and size heterogeneity, while color defects are lower.

The obtained results showed that the compliance of strawberries with minimum marketing standards varies according to land tenure status of the farms. In fact, the percentage of strawberry compliance for large farmers exceeds 68%. Small farmers have a relatively low compliance rate compared to other farmers and do not exceed on average 43%.

3- Marketing of agricultural products in the study areas

3-1- Marketing of agricultural products in Lebna IPP

According to our survey the results, the marketing method most adopted by the surveyed farmers is field sales (52%), while the export has only a small portion that does not exceed 9%. This might be because most of farmers have a workforce problem in the region. 22% of the products are sold on the wholesale markets. The rest is on-site sale.

Similarly, the results of the survey show that most farmers are willing to export their agricultural products (Figure 2). Thus, it can be deduced that socio-economic factors (age, level of education, agricultural training, etc.) do not have an influence on farmers' willingness to export.

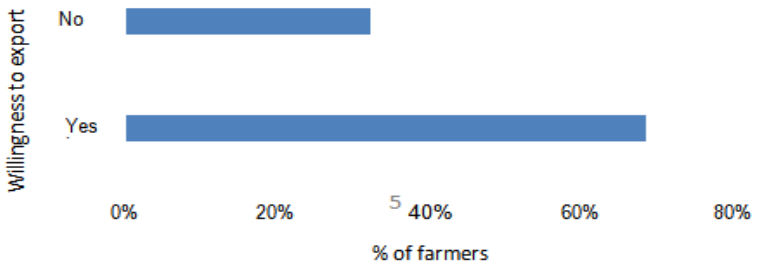

Figure 2. Willingness of farmers to export in Lebna IPP

3-2- Marketing of agricultural products in Korba area

According to the results of our survey in Korba region, it can be noted that the most popular marketing method for strawberry growers is either on-site sales (40%) or the wholesale market (50%). While only three farmers export strawberries (10%). Thus, it can be noted that more than 40% of the surveyed farmers had experience exporting strawberries but they cannot export big quantities (Figure 3).

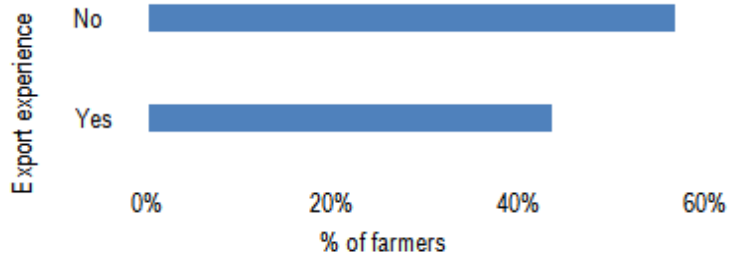

Figure 3: Strawberry export experience for the surveyed farmers at Korba region

Regarding the willingness of farmers to export strawberries, the results showed that most farmers no longer have a will to export strawberries and prefer to sell their products on the local market. This may be due to the high selling price of strawberries for this year in the domestic market (Figure 4).

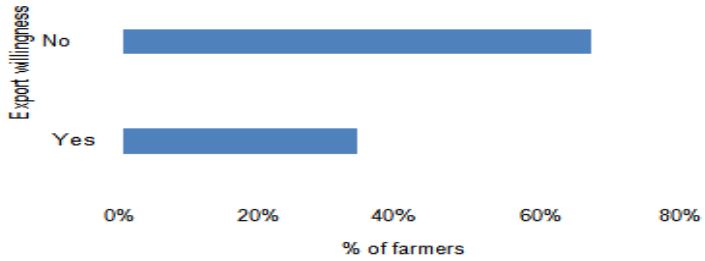

Figure 4. Willingness of farmers to export at Korba region

IV. Conclusion

In conclusion, we can say that according to our study, despite the important potential of agricultural productions in the study areas, the export depends on several factors such as socio-economic factors of the farmers, factors related to production systems, farm size and especially factors related to quality (conformity of agricultural products to marketing standards). Therefore, given the signs of weaknesses in the export sector of these agricultural products on the international market, as well as the problems of compliance with marketing standards for the products studied in Lebna IPP and Korba study areas, we can offer the following recommendations: *1)* setting up crops exclusively for export under a contract of farming linking exporters to producers. State intervention is required to strengthen the degree of trust between these two operators; *2)* providing technical guidance to farmers and exporting producers by using appropriate and updated techniques and disseminating the most efficient production techniques in collaboration with various agricultural research organizations and with extension services organizations (affiliation of the Ministry of agriculture in regions, Agricultural Development Group ...); *3)* increasing credits amounts in order to help farmers to bear production costs and subsequently give a better quality product.

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