

Impact of covid-19 on date palm production in Morocco

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Abstract. As for the whole world, the Coronavirus crisis generated in Morocco a significant shock on supply as well as on demand, putting several activities in slow motion. Like the different economic sectors, the date palm (*Phoenix dactylifera* L) sector which presents a real natural and cultural wealth of the country has suffered drastically in the confinement period. This study targets some palm groves of the Draa-Tafilalet region in the provinces of Errachidia, through a field survey on 30 farms and aims to measure the impact of Covid-19 on their agricultural activities. We conclude that this double health and economical disease has the potential to disturb the date supply chain.

1 Introduction

The Covid-19 pandemic known as the 2019 Coronavirus illness, which appeared in Wuhan on November 17, 2019, spread throughout the world. In Morocco more than 394,564 cases have been identified [1]. And the health crisis severely worsens the economic one; for the first ten months of 2020, both imports and exports of goods (comparison between January-October 2020 and January-October 2019) decrease by 16.6% and 10.1% respectively [2].

Despite the pandemic, the national agriculture has achieved "good performance" in the export of early vegetables and fruits[3]; for a total value of 17 billion dirhams announced the Minister of Agriculture to the members of Parliament(June 2, 2020). In the absence of statistics about dates, the Kingdom imports large quantities and remains the world's leading importer of Tunisian dates [4].

The paper starts with an overview of date palm production in the Draa-Tafilalet region, it then moves into survey methodology, and ends with negative implications of Covid-19 and some perspectives.

2 Date palm in the draa-tafilalet region

The dates constitute the main production of the Saharan regions and the pillar of the oasis, which is a specific ecosystem adapted to extremely arid areas [5]. Morocco is 12th in the world ranking of date producers with 143,000 tonnes per year [6], this remarkable place is explained by the importance given to the date palm and its culture (Aberlenc-Bertossi, 2010; SBIAI, 2011).

For more than one million inhabitants, date palm cultivation in the region of DraaTafilalet creates more

than 60% of daily agricultural income, more than 1.5 million days of work, as well as various materials intended for the craft industry, construction or energy production [8]. But until yet Morocco has not yet reached the self-sufficiency in terms of dates, since it imports nearly 30% of its date requirements.

The plain of Boudnib belongs to the Draa-Tafilalet region and contains one of the most important oases. It is very well known for its genetic diversity of palm trees, the high quality of its fruits, and the ethnic particularity of its population very attached to date palm trees culture.

The dates "Majhoul," planted for the first time in the United States, were imported in the form of Nine Palms from the Boudnib Oasis in 1927(Wright, 2016). For the past two decades, it has been marked by the growth of new extension areas and the rehabilitation of existing oases.

3 Sampling

The study area is in the southeast of Morocco in the Draa-Tafilalet region, specifically in the plain of Boudnib; the latitude is 32° 00 "to 31° 4" north, the longitude is 3° 45" to 3° 30" west. The survey is carried out in August and we have identified a stratified sampling of 30 farms treating fairly three categories of palm groves:

- Oasis: traditional palm grove with a residential area.
- Peri-oasis an extension highlighted in oasis spaces.
- And extra-oasis: an entity geographically independent of any agglomeration grouping modern farms.

The objective is not to treat each type separately but to have a global vision of Covid-19's effect on the date palm supply chain. The statistical analysis was carried out by Sphinx software, which offers a simple method to

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describe and summarize the data collected in a meaningful way.

4 Impact of covid-19

Overall, 60% of respondents are affirmed that the pandemic has an impact on their agricultural activities (Fig. 1).

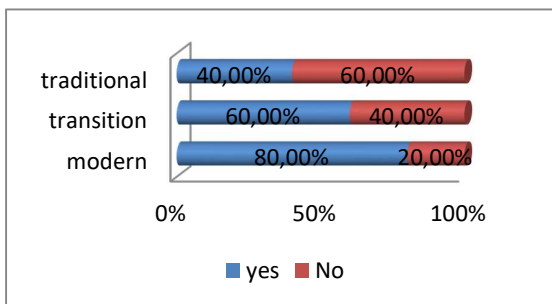


Fig. 1. Covid-19 impact

Moreover, 94.4% of respondents claimed to have difficulties in sourcing raw materials. The following graph (Fig.2) shows a major need for livestock feed in the oasis farms which becomes insufficient and expensive; the 2019-2020 agricultural campaign is already experiencing a surge in food prices [11], and the situation was accentuated with the pandemic especially in regions far from straw production areas such as the Boudnib region.

And on the other side we found inputs in the extra-oasis. It is strongly explained by road transport restrictions also affected by the crisis, even that the transport of goods was suspended from the prohibition decision; but there were other constraints related to complicated administrative procedures, the closure of technical control centers, and the suspension of certain activities related to transport (spare parts, pneumatic center and associated services) [12].

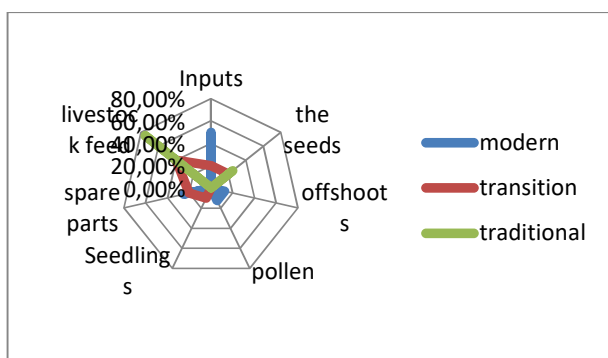


Fig. 2. Raw materials

Therefore, the farmers surveyed declare that they haven't received these raw materials on time and in good quantity and quality.

According to the survey (Fig. 3), the isolation of some farms managers abroad or outside Boudnib and the lack

of manpower because of transport limitations (number of people, social distancing...) [13] and fears of infection are the most important problem, which affects mainly the modern and peri-oasis, for the reason that the traditional one based essentially on family labor.

This year the pollination phase unfortunately coincides with the confinement period; it's a crucial step to ensure fruit production [14] and takes place in spring (March-May) [15].

Indeed, this activity is labor intensive, particularly that the majority apply the traditional method. Due to the general sanitary confinement, there was a shortage of seasonal manpower and the farmers suffered several difficulties in circulating and bringing back the pollen grains.

Besides, strict measures established by the authorities in the region to limit the spread of coronavirus (no circulation after 1 p.m., compulsory authorization, masks...) make farmers very afraid to meet people and work, mainly in the oasis and the peri-oasis, where most people are old and illiterate.

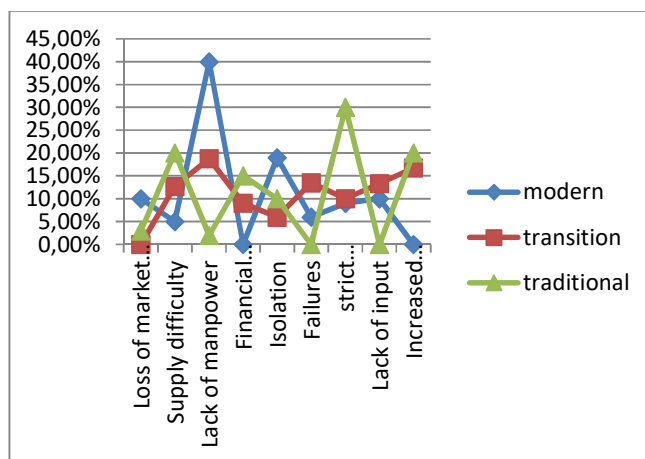


Fig. 3. Major problems related to the pandemic

Date marketing chain is very complicated in the region, and can't be evaluated by a simple survey; there are farmers who sell the product on the feet to collectors and others in bulk. The entire quantity harvested is destined mostly for local markets with little interest in exporting, which is usually related to high value market products (Majhoul & Boufagous).

Admittedly, in Morocco like all countries, the fear of confinement and the risk of a food shortage result in an increase in the purchase of food products to make provisions without excluding dates. But according to respondents this year the demand has decreased even during the month of Ramadan (23April-23May) when Moroccans consume more dates.

First, owing to the sharp rise in the unemployment rate, increased from 9.4% to 12.7% nationally, from 12.7% to 16.5% in urban areas and from 4.5% to 6.8% in rural areas. The loss of 581,000 jobs between the third quarter of 2019 and the same period in 2020 [16], with about 518,000 unemployed in the "service" and

"agriculture, forestry and fishing" sectors [17], and consequently a decrease in purchasing power. Second, dates are a perishable product and require conservation in front of the limited capacity of storage units. And finally, they are not a staple product.

The palm sector still remains dynamic and buoyant in the region, 72.7% declaring that they have not changed their investment intentions even in the midst of the crisis. And according to the Ministry of Agriculture, Fisheries, Rural Development, Water and Forests dates show a good availability on the market through domestic production and import during the pandemic [18]. Despite the cancellation of both national and international meetings: the 15th edition of the agricultural show "SIAM" in Morocco [19], scheduled for 14-19 April 2020. And the 11th edition of the international date fair in Morocco "SIDATTES", where several small farmers sell their products, and take advantage of promotions to acquire machinery and equipment.

5 Conclusion

To sum up, the date sector is directly affected by the Covid-19 crisis due to the reduction in the workforce, the slowdown in logistics and supply chains, but also indirectly through the loss of Moroccan's purchasing power. And the pandemic adds to existing broader problems (erosion, water scarcity, climate change, silting...) facing date production in Morocco in general and in the region especially.

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