

# Enhancing Youth Employment in Rural Africa

## Challenges and Opportunities in Tunisia

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## Forum for Agricultural Research in Africa (FARA)

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## About FARA

The Forum for Agricultural Research in Africa (FARA) is the apex continental organisation responsible for coordinating and advocating for agricultural research-for-development. (AR4D). It serves as the entry point for agricultural research initiatives designed to have a continental reach or a sub-continental reach spanning more than one sub-region.

FARA serves as the technical arm of the African Union Commission (AUC) on matters concerning agricultural science, technology and innovation. FARA has provided a continental forum for stakeholders in AR4D to shape the vision and agenda for the sub-sector and to mobilise themselves to respond to key continent-wide development frameworks, notably the Comprehensive Africa Agriculture Development Programme (CAADP).

FARA's vision is to "Reduced poverty in Africa as a result of sustainable broad-based agricultural growth and improved livelihoods, particularly of smallholder and pastoral enterprises" its mission is the "Creation of broad-based improvements in agricultural productivity, competitiveness and markets by strengthening the capacity for agricultural innovation at the continental-level"; its Value Proposition is the "Strengthening Africa's capacity for innovation and transformation by visioning its strategic direction, integrating its capacities for change and creating an enabling policy environment for implementation". FARA's strategic direction is derived from and aligned to the Science Agenda for Agriculture in Africa (S3A), which is in turn designed to support the realization of the CAADP vision.

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This research suffered from a very significant delay due in part to the global health crisis, COVID-19 and its consequences. Indeed, based mainly on a field survey among young farmers, this study was repeatedly delayed because of travel restrictions between governorates in Tunisia followed by a political crisis in summer of 2021.

We would take this opportunity to thank all the colleagues from FARA and ZEF for their patience and our colleagues from the National Institute of Agronomic Research of Tunisia (INRAT) who provided insight and expertise that greatly assisted the research. The efforts of the enumerators are also well appreciated.

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# Introduction

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## **Context and justification**

During the year 2020, Tunisia experienced a difficult economic situation due, in particular, to the global health crisis which arose at a time when the country was already facing persistent macroeconomic imbalances. In fact, the COVID-19 pandemic produced a supply shock directly affecting the activity of the main sectors, as well as a drop in demand as a result of the lockdown measures, reduction in the incomes of economic agents, and great uncertainty about the duration and evolution of the pandemic.

This situation affected economic growth, which experienced a historic contraction (-8.8% in 2020 against 0.9% in 2019), as well as the job market with the increase in the unemployment rate in addition to the worsening of global economic imbalances (Banque Centrale de Tunisie, 2021).

The increase in the unemployment rate directly affected the youth as more than two-thirds of the Tunisian population was below the age of 30 years. This was mainly observable in the agricultural sector, where, despite their major role in sustaining agricultural production and also in maintaining economic and social life in rural areas, young people migrated from their regions to coastal areas or to the big cities looking for job opportunities. There was, without any doubt, a persistent lack of engagement of young people in agriculture all over the world and more specifically in Tunisia. This stems not only from the availability of non-agricultural jobs, but also from the limited profitability of many small-scale farms (Faysse et al, 2020).

According to Fiedler (2020), few young people see a future for themselves in agriculture. Indeed, the average age of farmers is rising and there is little prospect for younger generations to replace aging farmers, resulting in what is referred to as “the generation gap” in the agriculture and food sector. Fiedler (2020) explained that by the fact that young people are reluctant to consider agriculture as a viable livelihood option and associate it with low returns, hard work and low social status and on the other hand, young entrepreneurs wishing to succeed in agricultural and food value chains face numerous challenges, in particular inadequate access to land, credit and markets. These challenges are multidimensional and require interventions at various levels.

In Tunisia, programs to support the establishment of young farmers are still emerging, despite the declared importance of supporting young farmers in national development strategies.

The aim of the present study was to analyze how young people engage in farming and how to enhance the youth employment opportunities. Challenges and barriers but also opportunities were studied within a sample of 159 young farmers/agripreneurs. Policy tools to help young people start farming were also reviewed to assess the most promising tools designed to support access to land, capital, and markets, capacity-building and making farming a more attractive profession.

## | Study Objectives and Expected Results

Key challenges for many developing and emerging countries are unemployment and more specifically youth unemployment. The aim of this project was to understand how to enhance youth engagement in productive employment in farming and agribusiness in Tunisia.

A literature review will deepen our knowledge of the employment potential in rural Tunisia. This will be achieved through the review of the Tunisian economic context, the demographic dividend, the employment dynamics in general and those of rural young people. The potential of the food and agriculture sector to create jobs was also studied.

This literature review, combined with the data analysis would help to understand the relationships between the employment dynamics and welfare; and the socially and spatially differentiated perspectives of rural young people on work, employment and livelihoods.





This research will be addressing a number of questions:

1. What are the success factors for youth in farming and agribusiness?
2. What are the main challenges and barriers to entry into farming and agribusiness encountered by youth?
3. Which policy interventions are the most relevant to support youth in farming and agribusiness?

## **Organization of the Report**

Section 2 provides an overview of the potential youth employment in rural Tunisia with the economic context, the demographic dividend, the employment issues and the potential of the farming sector to create jobs. Section 3 introduces the existing literature on the success factors and the main challenges and barriers encountered by youth venturing into farming and agribusiness as well as the main policy tools to support youth in the agricultural sector. Section 4 describes the data and outlines the methodology for the analysis of the youth employment in agribusiness and farming. Section 5 presents the results obtained from the database including the characteristics of the youth agripreneurs, the potential success factors and constraints encountered by youth while starting their agribusinesses and also their perceptions on jobs and businesses in food and agriculture. It also describes the factors affecting the success of young agripreneurs. Section 6 depicts the lessons learnt and implications of youth engagement in agriculture and finally, the section concludes and provides policy recommendations.

## **Youth Employment Potential in Tunisian Agriculture**

In September 2015, world leaders agreed on 17 Sustainable Development Goals (SDGs) to end extreme poverty, inequality and to protect the planet by 2030. Among these SDGs, having a decent work is one of the targets to achieve full and productive employment. Encouraging entrepreneurship and job creation are key to this achievement (Sumberg, 2021). Investing in youth and empowering young Agri-entrepreneurs to invest responsibly in their farms and businesses are fundamental to achieve many SDGs (Fielder, 2020). Among the other economic sectors, the agri-food is recognized as one of the ten SDG priority sectors for investment due to its strong potential to contribute to the eradication of poverty and hunger, as well as to the creation of sustainable growth and decent employment (Fieldler, 2020).

Due to the nexus between agriculture, rural development and poverty reduction, investment in agriculture is not only essential for the eradication of hunger but is also significantly more effective in reducing poverty than investment in any other sector (FAO, 2017). This transformative potential of the agri-food sector is explained by two main facts. Firstly, poverty remains an essentially rural phenomenon: as of today, approximately 80 percent of the extremely poor live in rural areas (De La O Campos et al., 2018). Investments in agriculture and food systems can create decent job opportunities in rural areas which will help lift rural communities out of poverty. Secondly, productive investments along agricultural supply chains will increase the availability of affordable

and nutritious food for both the urban and the rural poor, and hence decrease the share of total household expenditure on food. (Fieldler, 2020).

Unemployment and underemployment among young people are critical issues in international development nowadays, and will remain so in years to come. This is particularly the case in Tunisia where the population of young people is increasingly growing and so is the unemployment rate. According to the orientation document prepared by FAO-INRAT (2020b), 35% of young persons (between 15 and 35 years old), highly educated and living in rural areas are unemployed which leave them with no choice but emigrating from the regions and more frequently moving abroad. The current study aims to look on young people's engagement in productive employment in farming and agribusiness in Tunisia and what are the essential factors to be successful entrepreneurs in these sectors but also which are the factors that hinder this engagement? The goal of this study is to strengthen and deepen the knowledge of the employment dynamics of rural young people and the relationships between these dynamics and welfare.

One of the key components of a sustainable development-centered strategy is to empower young Agri-entrepreneurs as there is significant evidence that empowering youth is key to achieve sustainable food security; enhance sustainable productivity, value addition and resilience; and combat unemployment, distress migration and poverty (Fieldler, 2020).

This section will be devoted to understand the demographic dividend in Tunisia to determine the importance of the youth in the country as well as the employment potential of the food and agriculture sector to create jobs.

## | The Demographic Dividend in Tunisia

Tunisia is a country located in North Africa and covers an area of 164 000 km<sup>2</sup>. It lies at the junction of the Western and Eastern Mediterranean (See figure 1). Tunisia has a Mediterranean climate, with aridity increasing from the North to the South. Hence, the country's average annual rainfall decreases from 1500 mm in the northwest to less than 100 mm in the south (Benzarti, 2003).



Figure 1: Tunisia map  
Source: [Worldatlas.com/maps/tunisia](https://worldatlas.com/maps/tunisia), 2021

The United Nations Population Fund defines the demographic dividend as “The economic growth potential that can result from shifts in a population’s age structure, mainly when the share of the working-age population (15 to 64 years) is larger than the non-working-age share of the population (14 years and younger, and 65 years and older)”. This occurs when the dependent persons (elder and young) are less numerous than the working people. The latter have the potential to be productive leading to the growth of the economy, what is called “The demographic gift”.

Over a 70-year period (1950-2020); Tunisia underwent a transition initiating a demographic dividend. This is particularly observed in the figure 2 where the population pyramid shape changes over the time. Indeed, from 1950 to 2020, a change has been observed in the Tunisian population pyramid. More specifically in the age group 15 to 39 years (Table 1).

**Table 1: Demographic change of young people (15-39 years) from 1950 to 2020**

Production Sector	1950	1970	2000	2020
Number of persons in thousands (15-39 years)	1,356	1,738	4,209	4,495
Total population	3,605,311	5,063,805	9,708,347	11,818,618
% Of young people in total population	37.61%	34.32%	43.35%	38.00%

**Source: Our calculations from World Bank and UNFPA, 2022**

The percentage of young people (between 15 and 39 years old) is on average around 38% of the total population from 1950 until today. This means that this group of the population has the highest percentage in the total which confirms the importance of the young in the Tunisian economy. Tunisia therefore has a window of opportunity for rapid economic growth if the right social and economic investments and policies are made in health, education, governance, and the economy. Investments in today's youth population can position a country to achieve a demographic dividend, but the gains are neither automatic nor guaranteed.

The major problem is that the rate of creation of decent employment opportunities lags far behind the number of young people who are becoming economically active. The agricultural sector can be a way to fill this gap by giving young people opportunities to work and to generate incomes.





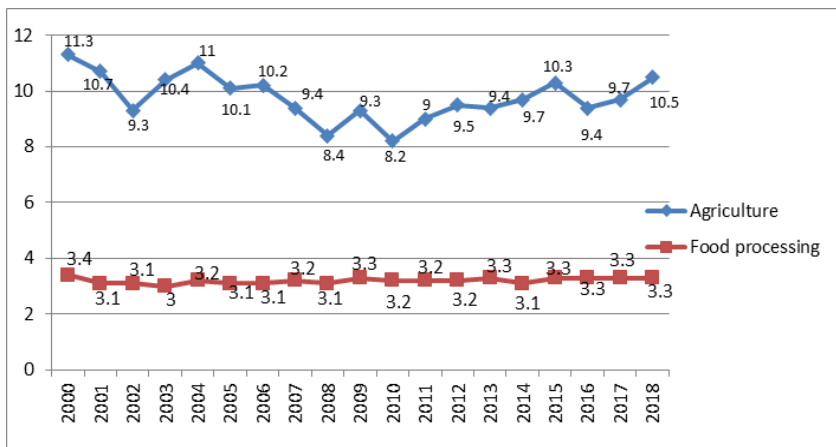
Figure 2: Tunisia's Demographic dividend (1950-2020) in thousands of people  
Source: [www.UNFPA.org](http://www.UNFPA.org), 202

## Agricultural Employment Status in Tunisia

Agricultural development is one of the most powerful levers for ending extreme poverty, increasing shared prosperity, and feeding the world's 9.7 billion people by 2050 (World bank, 2016). Compared to other sectors, growth in agriculture is two to four times more effective in increasing the income of the poorest populations.

The issues of food production, agricultural development policies, and food security are most of the times placed at the top of the country's priority list. Agricultural development is critically important to improving food security and nutrition, reduction of dependence on food imports, and overall economic and social welfare. The availability of employment in the agricultural sector for rural young people has long been considered as a way to limit the rural exodus, but opportunities for non-agricultural employment (in both rural and urban areas) are limited.

In Tunisia, the agricultural and fisheries sector remains of great economic and socio-political importance due to its contribution to the achievement of national objectives in terms of food security, income generation, employment, regional balance, and natural resource management. Indeed, in 2018, the agricultural and fisheries sector contributed to 10.5% of the Gross Domestic Product (Figure 3).

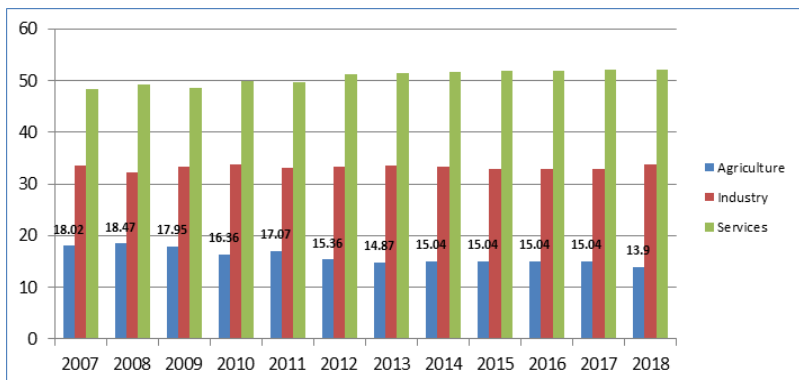


**Figure 3: Evolution of the share of the agricultural added value (% of the GDP)**

Source: INS, 2019

For the last two decades, the share of the agricultural added value to the GDP has been fluctuating but it was observed that from 2010, its contribution has slightly increased reaching 13.8% of the total GDP in 2018 including the food processing industries.

Net job creation in this sector has been negative in recent years and its share of national employment has slightly declined from 2007 where 18.02% of the workforce were employed in agriculture to 13.9% in 2018, whereas the services sector employs more than 52% of the employees. This decline is closely linked to regional disparities in terms of development and access to employment. Indeed, there is a strong movement of rural exodus between regions and also emigration due to the lack of job opportunities. Buccotti et al. (2018) estimated that the decline in agricultural productivity and income from agricultural activities and the increasing fragmentation of agricultural land are the primary factors explaining the rural exodus and emigration of young people who left after 2011.



**Figure 4: Job distribution by economic sector in % (2007-2018)**

Source: www.statista.com, 2022

According to Buccotti et al. (2018) with 3.6 million people living in rural areas in Tunisia, the ratio of the rural population (% of the total population) almost halved during the period 1960-2017 (from 62.5% in 1960 to 31.4% in 2017). The rural world is experiencing a strong departure of young people aged 18 to 35, leading to an ageing population, a predominance of women and a lack of young and qualified agricultural labor.

To encourage young people and close the agricultural generation gap requires that the government put in place strategies and policies adapted to young Agri-entrepreneurs. These latter will provide opportunities and perspectives to youth who want to engage in agriculture. Youth unemployment is a great challenge for Tunisia since it can have a negative impact on young people's well-being and a detrimental effect on the country's economic performance and social stability.

### Current Situation of Youth Employment in the Agricultural Sector

In the context of our study, it is essential to define what a young person is. According to literature and based on the National Institute of Statistics, FAO-INRAT (2020b) defines young persons as persons aged between 15 and 34 years and sometimes up to 45 years.

According to the National Institute of Statistics (2017), within fifty years (1966-2014), the proportion of young people in the population has varied considerably; first with an upward trend, from 27.8% in 1966 to 37.2% in 2004, then with a downward trend reaching 33.2% in 2014. In 2018, young people (15-39 years old) represented 32.9% of the total population in Tunisia, which is 11,559,700 inhabitants.

In terms of employment, the working-age population is changing rapidly and reached 74.8% in 2018 which requires the creation of employment at a rapid pace in order to meet job seekers and fight unemployment. In 2017, for an active population of 1,740,452 young people (aged 15 to 34), only 1,295,494 were employed, or 74.5% of the total, which leaves 444,958 unemployed. So, while the average unemployment rate is 15.4%, that of young people is 25.5% (FAO-INRAT, 2020b).

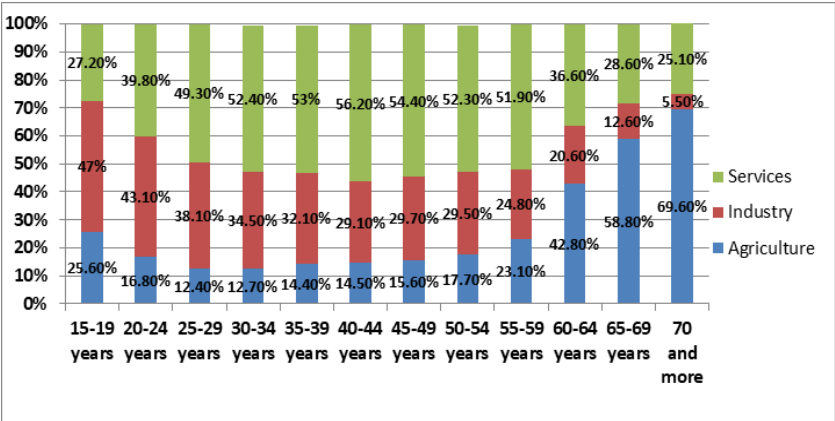


Figure 5: Distribution of workers according to the age and economic sector in 2012  
Source: INS, 2013

The distribution of the working population by age group shows, on the one hand, that the rate of absorption of young people under 30 years by the agricultural sector tends to decrease with age, reflecting disaffection for this sector (Figure 5). Thus, while the agricultural sector provides employment on average for 25.6% for those between 15 and 19 years, this rate decreases to 16.8% among young people aged 20 to 24 years and drops to 12.4 % for young people aged 25 to 29 years. On the other hand, the high concentration of workers over the age of 60 years in the agricultural sector indicates an ageing of the agricultural labor force compared to other sectors of the economy.

Since independence, the Tunisian government has tried to solve the problem of youth unemployment, particularly in rural areas. For this purpose, the government allocated irrigated governmental lands to young people. The allocated irrigated area varies between 2.5 and 3.5 ha. The lease contract is signed between the young farmer and the Ministry of Land Affairs for a renewable period of 15 years. Even after this long period, farmers cannot become owners of the land. The rental amount is calculated with reference to the price of durum wheat, which is set annually by the state. Thus, the variation of the rental price depends on the variation of the price of durum wheat. During the first two years of the lease, the tenant does not pay anything to the State, which gives him time to set up. This strategy was not successful and a number of young farmers leased all or parts of their land to other farmers who are looking for more land to cultivate while the young farmers who had abandoned their land took on seasonal jobs (public works, industrial jobs etc.). These rentals are made without formal contract.

Another strategy to attract young people into farming was the allocation of plots to agricultural technicians (whether they were engineers or technicians). This strategy had a dual objective: to create jobs for agricultural graduates and to establish pool of technical influence around farms. The administration (government) was also relieved of some burden, since the allocation of state-owned land to public service technicians was done in exchange for their resignation (Elloumi, 2013). These plots were allocated with long-term leases (15 or 40 years), without transferring ownership of the land. The allocation is made according to specific criteria: the age of the beneficiary must not exceed 40 years, he or she must commit to the development of the plot, he or she must have a degree in agriculture (Gharbi et al, 2018).

There were 850 technical plots in 2011 (See figure 6). This operation has had mixed results, with successes but also failures, and in particular significant indebtedness for some allottees (MARHP, 2015).



**Figure 6: Distribution of the technical plots by governorates in 2011**  
**Source: Gharbi et al., 2018**

The main objectives of the allocation of these lots were the rejuvenation of the population of the agricultural sector, the creation of jobs for rural youth, and the compensation of former cooperators following the dissolution of their associations. These recipients benefit from long-term contracts (15 or 40 years), without transferring the ownership of the land. There were 5,500 lots in 2012, 62% of which were located in the north of the country, for a surface area of 31,248 ha. These lots had surface areas of 7 to 15 ha in dry land and 2 to 3 ha irrigated (MARHP, 2015). Unfortunately, this program failed because the government gave small plots and also the state allocated these lots without financial support. Indeed, young farmers were excluded from the credit lines, including those of the National Agricultural Bank, due to lack of guarantees (Gharbi et al, 2018). These financing constraints lead some young farmers to sell their leased land and abandon farming.

## **How to Enhance Youth Engagement in Productive Employment in Farming and Agribusiness?**

### **A Literature Review**

In this section, we aim to review how to enhance youth engagement in the agricultural and agribusiness sectors in Tunisia. To do so, the specific questions that need to be answered are as follow:

- What are the success factors for youth in farming and agribusiness?
- What are the main challenges and barriers to entry into farming and agribusiness for youth?
- Which policy interventions are the most relevant to support youth in farming and agribusiness?

Sullivan (2017) and Bairwa et al. (2014) described the agri-entrepreneur as visionary, curious, proactive, determined, persistent, honest, hardworking individuals with integrity, as well as having

management and organization skills. They pointed out that agri-entrepreneurs often engage in a variety of activities, which suggests that they multi-task well. They recognized entrepreneurs as single-minded, driven, ambitious, creative problem solvers, yet practical and goal-oriented. In addition, they suggested that agri-entrepreneurs are able to recognize needs as opportunities. Lastly, Agri-entrepreneurs willingly accept risks necessary to turn ideas into real and marketable products.

### **Success Factors for Youth in Farming and Agribusiness**

There is no singular blueprint for the success factors in farming, but certain steps and factors could be adopted for a more successful and impactful engagement of the youth in agriculture. Specific attitudes and actions of young farmers could contribute to successfully engage into farming.

Engaging in agriculture can be in different ways for the young people. It can be through working on the family farm, working as a farm laborer in neighboring farms, being employed by a company providing agricultural services or in the agro-industry or creating their own farm.

Concerning the financial aspect, young agri-entrepreneurs in Tunisia have access to credits through the regular banks or microfinance institutions but also, they have access to financial incentives from the government. Agricultural aid policies, subsidies and credits have been conditioned by the existence of a land title, a bank account and the solvency of the farmer. However, this is not the case for all farmers today.

According to Ouertani et al. (2021), the conditions needed to improve the access to financing for young agri-entrepreneurs are based on the improvement of the access to bank credits, strengthening their access to public financing and incentives by offering grants for start-up, a better mobilization of funds by cooperating with technical and financial partners, the implementation of participatory financing and finally the revision of the legislative framework of professional organizations to give them more autonomy.

According to Elloumi et al. (2022), succeeding in financing young Agri-entrepreneurs should involve:

- Improving the efficiency of institutions by getting closer to young people in rural and remote areas for a greater equity between territories,
- The involvement of banks, regional and sectoral offices to support the efforts of public authorities,
- The involvement of agricultural research in the development of rural areas and strengthening its links with development actors,
- Taking advantage from projects carried out by international non-governmental organizations (NGOs),
- Stakeholders from different territories and sectors should come together in clusters, platforms or any other organization in order to coordinate and have more synergy among the value chain,



- The regional offices should be in charge of coordination and give coherence to the development strategies of public authorities in the regions,
- The legal texts, particularly investment law, should recognize the specificities of the agricultural sector and give young agri-entrepreneurs more grants and incentives.
- Information and communication technologies (ICTs), with their strong presence and the continuous access to information that these tools give, are important for breaking the socio-economic isolation of young agri-entrepreneurs.

### **What Are the Main Challenges and Barriers to Entry into Farming and Agribusiness for Youth?**

Besides the success factors that are implemented to help young agripreneurs to succeed in farming, there are some risks and handicaps that need to be highlighted. Indeed, access to credits is one of the most cited barriers in literature. According to Elloumi et al. (2021), the proportion of farmers benefiting from bank loans does not exceed 7%. This relates to the complexity and constraints that characterize Tunisian agriculture such as the small size of the farms due in most of the cases to inheritance division; the advanced age of farmers with a low level of education and their lack of technology adoption; the climatic conditions and the regular droughts that faces Tunisian agriculture but also the lack of organization of farmers which is a main constraint to the development of small-scale agriculture.

Four years after the adoption of the investment law n° 2016-71, trends in agricultural investment remain on a very slow path. This situation is the result of an unfavorable context for investment in general and in the agricultural sector in particular because of the COVID-19 pandemic. It is also the result of certain limitations of the investment law itself or of the general environment that favors or hinders the launch of projects especially by young agri-entrepreneurs (Elloumi et al, 2022).

### **Which Policies are the Most Relevant to Support Youth in Farming and Agribusiness?**

In Tunisia, the success of agricultural policies and dominant discourses on small-scale agriculture have contributed to the construction of a strong agrarian dualism between “successful” agriculture and “backward” small-scale agriculture. Historically, the Tunisian small-scale peasantry has been mistreated by the public authorities, most often remaining on the sidelines of agricultural modernization projects.

Several initiatives were initiated in order to stimulate the investment in the agricultural and agri-food sectors. Among them, is the new investment law enacted in 2017, which offers numerous advantages. A study published by FAO and INRAT (2020b) in collaboration with the Tunisian Ministry of Agriculture, Fisheries and Hydraulic Resources, elaborated a roadmap to promote and sustain investments by young agri-entrepreneurs. The major findings are summarized in the figure below.



**Figure 7: Recommendations to improve the institutional and financial environment for young agri-entrepreneurs**  
 Source: FAO-INRAT, 2020b

According to this report, having an institutional and financial environment favorable to investment for young people in agriculture needs to have some key interventions:

- First, establishing a framework of financial interventions, services and incentives for young agri-entrepreneurs through the creation of well-tailored loans. Indeed, of the total investments approved by APIA between 2011 and 2018, only 19.8% were initiated by young people aged 30 to 40 years and only 8 % of the projects were initiated by young people under the age of 30 years (FAO-INRAT, 2020a). The main proposed solutions are the creation of financial services specific to young agri-entrepreneurs and also encouraging crowdfunding through the implementation of an online platform allowing participative financing,
- Second, strengthening extension services, training and coaching, which could be done through the involvement of professional organizations and private advisors, by the adoption of Information and Communication Technologies (ICT). The emergence of a new generation of highly educated young agri-entrepreneurs without agricultural training demonstrates the importance of coaching to support the project holders,

- Third, improving communication and access to information. This can easily be done through multiple organs such as the offices of regional development, training centers, regional services of the APIA (L'Agence de promotion des investissements agricoles) or business incubators. Also, the use of a unique platform which gathers all the services needed by the young agri-entrepreneurs in terms of communication and information in one place.
- Forth, ensuring a better coordination between the different stakeholders. Several institutions are involved in agricultural investment. Indeed to benefit from the financial and tax advantages according to the investment law, the private agribusiness investments should be approved by 3 institutions: The agency of the promotion of agricultural investment ( L'Agence de promotion des investissements agricoles APIA) for the agricultural projects, aquaculture, and other services projects with amount above 60 000 TND; the general direction of financing the investments and professional organisms (DGFOP) for the agricultural investments less than 60 000 TND and the Agency for the promotion of industry and innovation (APII) for investments in the agro-industry. A better coordination should be put in place in order to ensure proper functioning and synergies between the public institutions and the private stakeholders engaged in financing young agri-entrepreneurs,
- Fifth, strengthening the competitiveness and attractiveness of the sector. This could be achieved through the improvement of the visibility of the labelled products (through geographical indications )and the fair and profitable sharing of the benefits.

According to Fielder (2020), there are 5 key recommendations for policy makers to empower young agri-entrepreneurs to invest in agriculture. The first one is to develop the conditions of access to incentive schemes in order to ensure the maximization of return on investment for the young beneficiaries, as well as for government agencies. Second is to provide a full package of incentives by combining loans with investment subsidies. Third, to ensure that the overall policy and legal framework empowers, rather than impede young agri-entrepreneurs' investments. Forth, is to reach the young agripreneurs using their preferred means of communication, such as social media, web platforms, television or rural radios. Fifth, to engage youth in policy making processes by actively involving them in multi-stakeholder consultations and policy dialogue.

## Method and Sampling

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### | Study Area

Tunisia is divided into 24 governorates, which is the highest administrative division. The study focused on two rural areas: Gafsa and Jendouba. Gafsa is located in the central and western parts of the country. It has an area of 7,807 square kilometers and has a population of 337,331 inhabitants. Gafsa governorate is divided into eleven districts and eight municipalities as sub-administrative divisions. The capital of the region is Gafsa.

Jendouba is located in the north-western part of the country. It has a population of 401,477 inhabitants and the surface area is 3,102 square kilometers. The Jendouba governorate is divided into eight districts and eight municipalities as sub-administrative divisions. The capital of the region is the city of Jendouba. The main economic activity is agriculture. Jendouba has a hot-summer Mediterranean climate. In winter there is much more rainfall than in summer. The average annual temperature in Jendouba is 18.0°C, with about 504 mm of precipitation annually.

## | Sampling Methodology

The study areas were selected on the basis of the unemployment rate of young people in Tunisia in 2018 (See figure 8). Among the 24 governorates of Tunisia, 3 governorates appear to have the most important unemployment rate with 40 to 50% of young between 15 and 34 years. These 3 governorates are: Jendouba, Gafsa and Tataouine.

The enumerators were located in the capital, we therefore chose to do the surveys in only 2 governorates and excluded Tataouine from the study area as it is 550 Km away from the capital and it would be difficult to travel there.

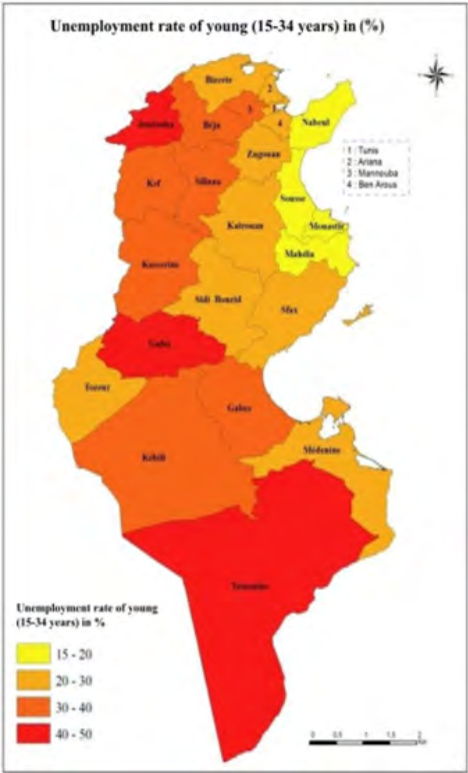


Figure 8: Unemployment rate of young people in Tunisia, 2018

Source: FAO-INRAT, 2020b.

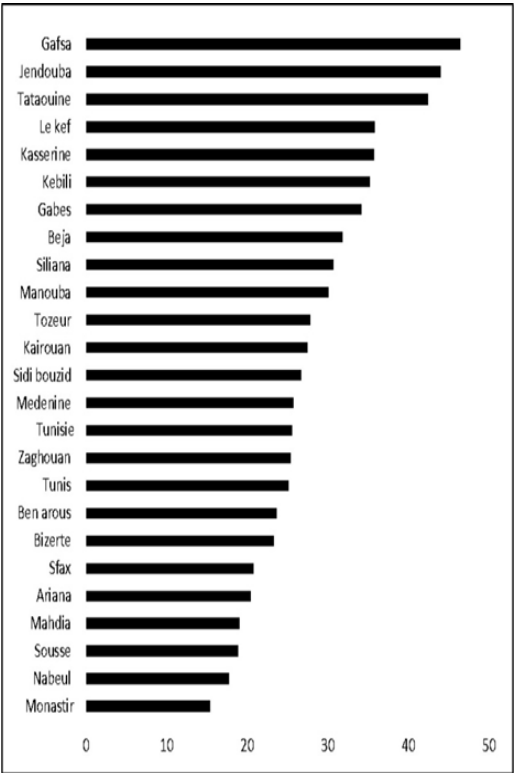


Figure 9: Unemployment rate of young people by governorate in %

The surveys were designed to collect data on many dimensions of the household welfare, including general information of the respondents' background as well as his/her education and skills, his/her activities as a farmer or as an agri-entrepreneur, but also his/her access to land and finance, the social capital, the constraints and barriers faced, the success factors and finally the perceptions and aspirations.

The main objective of these surveys was to assess the living conditions of the young agri-entrepreneurs and to illustrate what the main challenges were and also the success factors for young to engage into farming and agribusiness.

A total of 159 respondents were assessed in the 2 governorates. A total of 31 in Gafsa and 128 in Jendouba. The young agri-entrepreneurs were randomly selected in these regions with a unique condition: ageing less than 45 years old, the distribution of the sample is as follows (Figure 10).

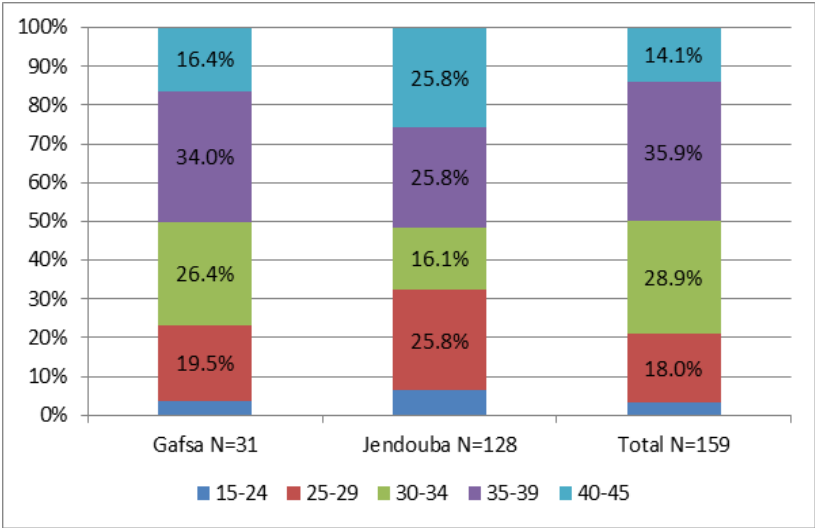


Figure 10: Age group of the repondents by governorate, %

Figure 10 shows the age range of respondents by governorates, it shows that a large part of the sample was aged between 30 and 39 years (60.4% of the respondents in the governorate of Gafsa and 64.8% of the total respondents in both governorates).

A total of 25.8% of the respondents in the governorate of Jendouba and 19.5% in Gafsa were aged between 25 and 29 years old.

# Results

In this section, the results obtained from the surveys are presented in two sub-sections. The first shows a descriptive analysis with the demographic and socio-economic characteristics of youth agripreneurs, the characteristics of the businesses, the success factors and challenges, the perceptions and aspirations of the surveyed farmers and finally the policies put in place by the government, and those that are still needed by the young agripreneurs.

The second sub-section of the results addresses the factors affecting the success of young agripreneurs. The descriptive analysis details distinctions between successful and less successful agripreneurs based on an objective criterion (gross sale) and a subjective criterion (do you consider yourself as successful). The tests were run on each factor (agripreneur typology, socio-economic and demographic factors, migration, access to finance and land, entrepreneurship, social capacity, constraints and policies, perceptions and aspirations etc.) to evaluate the factors affected.

## | Descriptive Analysis of the Sample

### Demographic and Socio-Economic Characteristics of Young Agripreneurs

Suárez (1972) defined agri-entrepreneurship as the right to use land and its resources for agriculture, forestry, and related activities that generate income. Also, agri-entrepreneurs actively engaged in agriculture, use current technology to increase agricultural productivity, and adopt new systems of operations (Singh, 2014).

This section is devoted to the demographic and socio-economic characteristics of youth agripreneurs of the sampled respondents. These characteristics include: gender, age, formal education, previous work experience, family background, wealth and migration experience.

Table 2: Demographic and Socio-economic characteristics of the sample

Factors	Gafsa N=3	Jendouba N=129	Total N=159
<b>Relationship to the head of the household</b>			
Head	N=30 33.6%	N=129 48.4%	N=159 36.5%
Spouse / partner	18.8%	9.7%	17.0%
Son / daughter	47.7%	35.5%	45.3%
Parent	0.0%	6.5%	1.3%
<b>Gender</b>			
Male	90.3%	66.4%	71.06%
Female	9.7%	33.6%	28.93%



<b>Marital status</b> <i>Single / never married</i> <i>Engaged to be married</i> <i>Married</i> <i>Separated / divorced</i>	51.6% 3.2% 45.2%	46.9% 0.6% 51.6% 0.8%	47.8% 1.3 50.3% 0.6%
<b>Children</b> <i>Yes</i> <i>No</i>	48.4% 47.2%	46.9% 53.1%	47.2% 52.8%
<b>Age</b> <i>15-34</i> <i>35-39</i> <i>40-45</i>	49.6% 34% 16.4%	48.4% 25.8% 25.8%	50% 35.9% 14.1%
<b>Locality</b> <i>Rural</i> <i>Urban</i>	87% 11%	85.5% 14.5%	86.16% 13.84%
<b>Education</b> <i>Primary incomplete</i> <i>Primary complete</i> <i>Secondary/High school</i> <i>University</i> <i>Post graduate</i> <i>Professional school</i> <i>Agribusiness Training</i>	- 3.2% 48.4% 41.9% 6.5% - 30%	1.6% 3.9% 39.1% 46.1% 2.3% 7% 67.2%	1.3% 3.8% 40.9% 45.3% 3.1% 5.7% 60.1%
<b>Apprenticeship</b> <i>Yes, formal apprenticeship/internship</i> <i>Yes, informal apprenticeship/internship</i> <i>No</i> <i>Yes, informal, and formal apprenticeship/internship</i>	N=16 25% 18.8% 56.2% -	N=128 14.1% 11.7% 59.4% 14.8%	N=144 15.3% 12.5% 59% 13.2%
<b>Wealth</b> <i>Well off</i> <i>Fairly well off</i> <i>Around national average</i> <i>Fairly poor</i> <i>Poor</i>	N=29 27.6% 27.6% 37.9% 3.4% 3.4%	N=128 11.7% 9.4% 78.9% - -	N=157 14.6% 12.7% 71.3% 0.6% 0.6%
<b>Migration experience</b> <i>Main reason for moving to current residence</i> <i>To accompany / join family</i> <i>For education / training</i> <i>For work / looking for work</i> <i>Farming</i> <i>Housing</i> <i>Returning home</i> <i>Other</i> <i>Intention to move</i> <i>Yes</i> <i>No</i> <i>Do not know</i>	N=7 14.3% 14.3% - 57.1% - 14.3% - N=125 6.4% 64.0% 29.6%	N=92 66.3% 6.5% 2.2% 1.1% 7.6% - 16.3% N=30 26.7% 60.0% 13.3%	N=99 61.6% 7.1% 3% 5.1% 7.1% 1% 15.2% N=155 10.3% 63.2% 26.5%

<b>Family background</b>			
<i>Father occupation</i>			
Armed Forces occupations	12.9%	12.9%	6.3%
Managers, senior officials and legislators	0%	0%	2.5%
Professionals	3.2%	3.2%	4.4%
Technicians and associate professionals	3.2%	3.2%	7.5%
Service and sales workers	3.2%	3.2%	3.8%
Skilled agricultural, fishery, and forestry workers	3.2%	3.2%	1.3%
Plant and machine operators and assemblers	0%	0%	1.3%
Elementary occupations	74.2%	74.2%	73%
<i>Mother occupation</i>			
Armed Forces occupations	3.2%	3.2%	0.6%
Managers, senior officials and legislators	0.8%	0.8%	0.6%
Technicians and associate professionals	0%	0%	1.9%
Craft and related trades workers	6.5%	6.5%	1.9%
Elementary occupations	90.3%	90.3%	95%
<b>Household income (monthly average) TND</b>			
0-500 TND	0%	4.8%	4%
500-1000 TND	33.3%	22.2%	24%
1000-2000 TND	45.8%	38.1%	39.3%
2000-3000 TND	8.3%	23%	20.7%
>3000 TND	12.5%	11.9%	12%

The surveys showed that the respondents worked on their own plot (farming and livestock) and none of them was involved in fishing or hunting. Only 7.1% had businesses related to food processing, marketing, logistics or distribution.

Table 2 provides an overview about the respondents' general information. As shown above, 36.5% of the sample were household heads, who made decision about their households and their agribusinesses. Nearly half of the agripreneurs were children of household heads. Almost the whole sample in Gafsa were male, while males in Jendouba were 66%.

For both governorates, half of the sample were married and the other half were single, 52% of the sample did not have children.

In total, half of the sample were between 15 and 34 years, while 35.9% were between 35 and 39 years and 14.1% were between 40 and 45 years. The age of farmers was expected to have impact on agricultural practices. Indeed, young farmers were perceived to have a big role in economic revitalization of the countryside.

Most of the respondents were located in the rural areas, 87% of the respondents in Gafsa and 85.5% in Jendouba governorate were located in rural areas. Most of the respondents resided near their agribusinesses in the rural areas.

Nearly half the sample graduated from universities, 41.9% and 46.1% of the respondents from Gafsa and Jendouba, respectively were university graduates. Also, 48.4% and 39.1% of the respondents from Gafsa and Jendouba, respectively, graduated from high school. Only 1.3% of the sample did

not complete primary school education. Gafsa had higher number (6.5%) of respondents with post graduate degrees.

Regarding trainings, 30% of the respondents in Gafsa had agribusiness trainings while 67.2% in Jendouba were exposed to training. About 60% of the total sample did not have any apprenticeship experience while 15% had a formal apprenticeship experience and 12% had informal internship.

In the governorate of Gafsa, 63% of the respondents worked on their family farms, against 78.9% in the governorate of Jendouba.

A total of 55.2% of the sample in Gafsa reported that their financial situation was well to fairly well off while only 21.1% reported same situation in Jendouba. A large part of the respondents (78.9%) rated their financial situation around the national average, only 37.9% in Gafsa reported being in this category. Only few respondents in Gafsa declared that they were fairly poor (3.4%) and poor (3.4%).

Most of the respondents in Jendouba (66.3%) reported that they relocated to their current place of residence so as to be around their families, while 57.1% in Gafsa reported that they relocated for farming. Also, 10.3% of the total sample intended to relocate, 63.2% did not have such intention, while 26.5% were undecided on relocating.

In both governorates, fathers of respondents worked in elementary occupations (73%), others worked in various other occupations: 7.5% as technicians, 6.3% in the armed forces and only 1.3% were skilled agricultural and fishery workers. Almost all the mothers (95%) worked in elementary occupations.

Monthly income was less than 500 TND for 4% of the sample, which was considered as a very low revenue. In Gafsa, 33.3% of the sample earned between 500 and 1000 TND, while 22.2% fell in this category in Jendouba. Nearly 40% of the sample earned between 1000 and 2000 TND monthly while 20.7% earned between 2000 and 3000 TND. Very few respondents earned above 3000 TND, 12.5% and 11.9% in Gafsa and Jendouba, respectively, fell in this category.

## **5.1.2. Skills, trainings and job history of young agripreneurs**

The most important skills cited by the respondents required to run their farms and their businesses are represented in the Figure 11 below. Technical skills were the most relevant for nearly the whole sample (98.1%). The second most important skill was marketing for 44.5% and 32.3% in Jendouba and Gafsa, respectively.

Book keeping was also considered important for 40.6% in Jendouba, while only 6.5% in Gafsa considered it as an important skill. Soft skills were cited as important by 36.7% in Jendouba and 25.8% in Gafsa while managerial skills were considered to be important for 25% and 29%

in Jendouba and Gafsa, respectively. Finally, the least important skill considered by respondents were digital skills for 13.3% in Jendouba and only 3.2% in Gafsa. This skill is considered relevant from previous findings about agriculture digitalization in Tunisia, which is still very low.

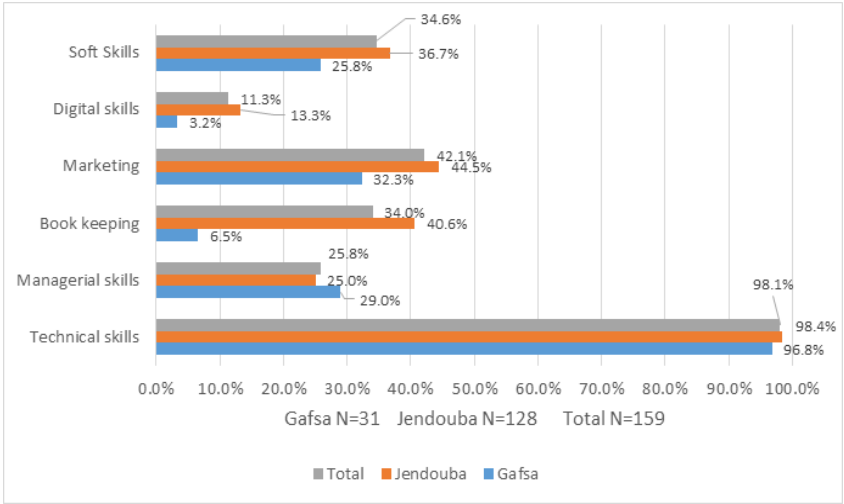


Figure 11: The most important skills cited by the respondents

Many respondents in Jendouba (84.4%) cited job training and family farm businesses (71.9%) as the best places or ways to learn (See figure 12). In Gafsa, 64.5% cited family farm business as the best place to learn.

About 51% of the young agripreneurs (57.8% in Jendouba and 22.6% in Gafsa) learnt by themselves. Few responded that they learnt (23.4% and 9.7% in Jendouba and Gafsa, respectively) through formal education.

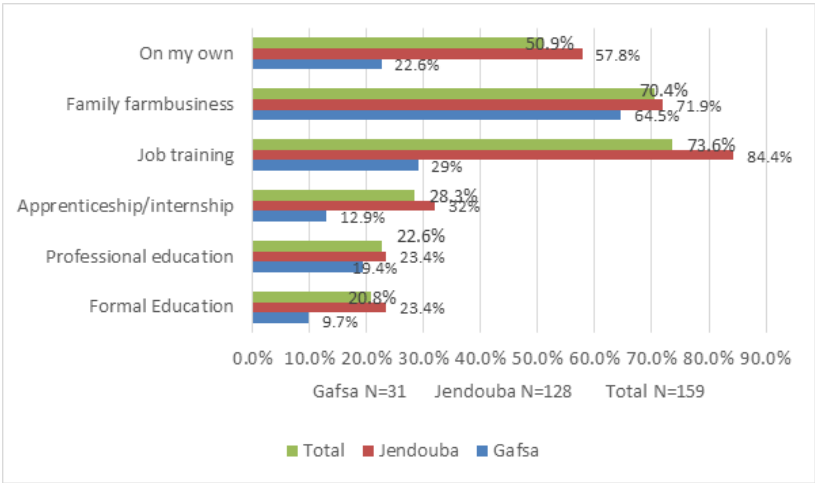


Figure 12: Different ways to learn the skills

Table 3 shows that 42.2% of the respondents in Jendouba were willing undergo trainings in the future, while 36.7% in Gafsa indicated same. About 20.9% of the respondents did not consider that they needed to be trained.

Experience and practice were considered as the best ways to learn by 61.3% of young agripreneurs in Gafsa and 31.2% in Jendouba. Respondents in Jendouba were more aware of the importance of trainings, 68.8% considered that training was the best way to learn in agriculture and agribusiness, 38.7% in Gafsa also agreed with this position.

On skills improvement, 46.5% of respondents indicated there was the need to learn and improve on technical skills, 48.5% indicated need to improve marketing skills. Digital skills was the least important to the respondents as only 17% of the total sample would want to learn and improve their digital skills.

Table 3: Future trainings of the sample

Factors	Gafsa	Jendouba	Total
<b>Planning training in the future</b>			
Yes	N= 30 36.7%	N= 128 42.2%	N=158 41.15
No	20%	21.1%	20.9%
Do not Know	43.35	20.9%	38%
<b>Best way to learn</b>			
Experience and practice	N= 31 61.3%	N= 128 31.2%	N=158 37.1%
Training	38.7%	68.8%	62.9%
<b>Skills they want to learn/improve</b>			
Technical skills	N=31 38.7%	N=128 48.5%	N=159 46.5%
Management skills	9.7%	40.6%	34.6%
Bookkeeping	65%	33.6%	28.3%
Marketing	29%	44.5%	48.5%
Digital skills	6.5%	19.5%	17%
Soft skills	6.5%	23.4%	20.1%

Out of 159 respondents, 136 revealed that they had to do other jobs apart from farming. A total of 92.18% in Jendouba and 58.06% in Gafsa fall in this category

Figure 13 shows the most cited reasons for doing extra jobs by the respondents. The most cited reason for engaging in other jobs was that the agripreneurs desired to make more money and have savings. This was the case for 55.9% in Jendouba and 33.3% in Gafsa. The second cited reason for this in Jendouba was that some of their farming activities were seasonal (21.2%) which led the agripreneurs to seek for other jobs.

Also, 16.7% of the respondents in Gafsa reported that they did many other jobs because they desired to diversify, 22.2% in Gafsa and 10.2% in Jendouba complained that the income earned from the different activities were not enough to cover their basic expenses.

The respondents reported during the interviews that the agricultural sector was too risky, and that

the farmer must save money to deal with unpredictable shocks. Some of them had non-farm related employment in order to save for their agribusinesses.

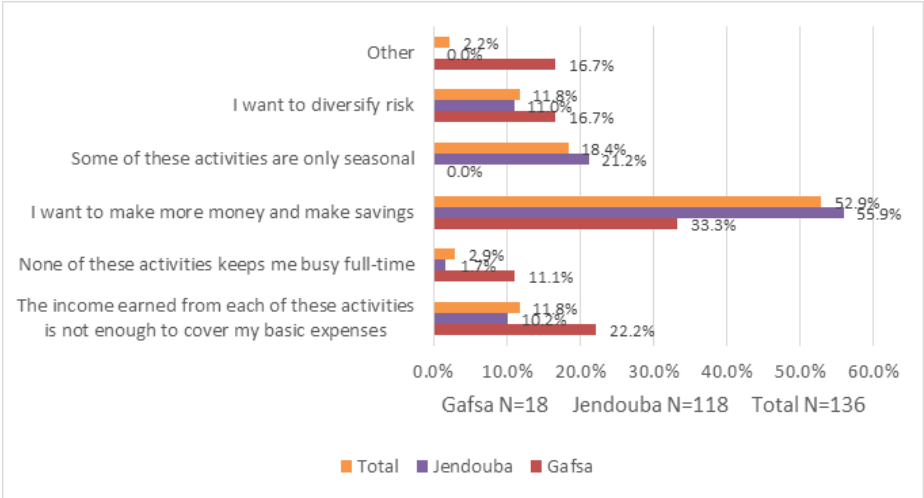


Figure 13: Reasons for doing other jobs

Most respondents (74%) in Jendouba indicated that they preferred to have only one job with sufficient income, while 55.6% indicated same in Gafsa (Table 4). In Gafsa, 61.3% of the respondents had other jobs before venturing into agribusiness, 47.7% of the respondents in Jendouba had other jobs before starting agribusinesses. In Jendouba, 65.6% of the respondents actively sought for other jobs during some periods.

Table 4: Job history for the respondents

Factors	Gafsa	Jendouba	Total
Would you prefer to have only one job with sufficient income?	N=27	N=127	N=154
Yes	55.6%	74%	70.8%
No	44.4%	15%	20.1%
Do not Know	-	11%	9.1%
Before starting your current activity, did you have any other jobs?	N=31	N=127	N=154
Yes	61.3%	47.7%	50.3%
No	38.7%	52.3%	49.7%
Were there any periods you were without work but actively looking for work?	N=27	N=128	N=155
Yes	37%	65.6%	60.6%
No	63%	34.4%	39.4%



# Agriculture and Agribusiness Characteristics of Respondents

This section is devoted to the description of the characteristics of the businesses (both farm and off-farm) held by the individuals in the sample. It includes the description of the types of business activities, the business characteristics (main activity, ownership, number of years in the business, source of capital) and also the business management, land and employment generated by the businesses, and farm and off-farm costs.

## Type of agribusinesses

Figure 14 shows the business sector activities of the respondents in both governorates. Most of the respondents were devoted to farming (98%). Only 3% in Gafsa worked in food processing while none of the respondents in Jendouba worked in this sector. In Jendouba, 1% of the respondents were engaged in food marketing and export and the remaining 1% worked in other sectors.

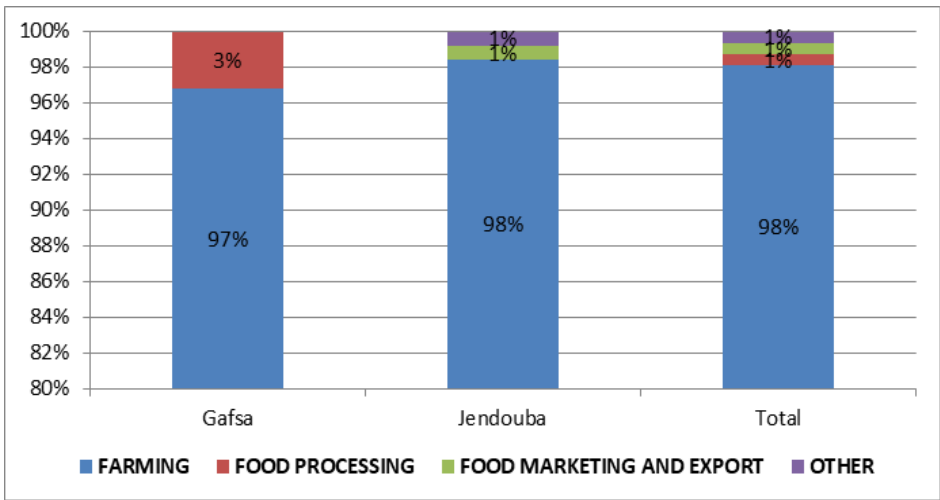


Figure 14: Business sector activities by governorates (%)

## Business characteristics

As shown in Table 5, the main activity in the governorate of Gafsa was crop production (79.3%) while Jendouba recorded only 26.8% for this group. The main occupation for the 73.2% respondents in Jendouba were services related to farming.

In Gafsa, 41.4% of the respondents were the sole owners of their businesses and 41.4% were joint business owners with their parents, while 73.2% of the respondents in Jendouba were sole owners of their businesses and 22% had joint ownership with their parents.

In Gafsa, 29% of the respondents had had their businesses for less than 6 years, 22.6% had operated

for between 6 to 10 years and 32.3% for more than 20 years. In Jendouba, the situation was slightly different because 70.3% of the respondents had started their businesses within less than 6 years. Only 10.9% of the respondents in Jendouba had had their businesses for more than 20 years.

Some respondents (44.8%) established their businesses, 31% inherited theirs while 24.2% acquired their businesses in Gafsa. In the governorate of Jendouba, 80.2% established their businesses while only 4% inherited theirs.

In the governorate of Gafsa, 90% of the respondents registered their businesses but only 6.9% had bank accounts in the name of their businesses, while in Jendouba, 64.8% registered their businesses and 28.8% had bank accounts in the name of their businesses.

**Table 5: Main characteristics of the business**

Factors	Gafsa	Jendouba	Total
<b>Main activity of your business</b> <i>Crops</i> <i>Services</i>	N=29 79.3% 20.7%	N=127 26.8% 73.2%	N=156 36.5% 63.5%
<b>Business owner</b> <i>I am the only owner</i> <i>Together with my parents</i> <i>Together with other members of my family</i> <i>Together with other non-relatives</i>	N=29 41.4% 41.4% 10.3% 6.9%	N=127 73.2% 22.0% 4.7% -	N=156 67.3% 25.6% 5.8% 1.3%
<b>Number of years of business creation</b> <i>Less than 6 years</i> <i>6 to 10 years</i> <i>11 to 20 years</i> <i>More than 20 years</i>	N=29 29.0% 22.6% 16.1% 32.3%	N=127 70.3% 10.9% 7.8% 10.9%	N=156 62.3% 13.2% 9.4% 15.1
<b>Business status at the beginning</b> <i>Owner</i> <i>Inherited</i> <i>Acquired</i>	N=29 44.8% 31.0% 24.2%	N=126 80.2% 4.0% 15.8%	N=155 73.5% 9.0% 17.5%
<b>Business registration</b> <i>Yes</i> <i>No</i>	N=29 90.0% 10.0%	N=29 90.0% 10.0%	N=155 69.7% 30.3%
<b>Bank account in the name of the business</b> <i>Yes</i> <i>No</i>	N=29 6.9% 93.1%	N=125 28.8% 71.2%	N=155 24.7% 75.3%

As shown in Figure 15, there were various sources of start-up capital for the businesses. Indeed, 45.3% of the respondents in Gafsa and Jendouba started their businesses through loans from microlending facility, 12.6% through loans from family and friends, 8.8% through savings and 8.8% through loans from banks, 8.2% through gifts from family members or friends. A total of 3.1% of all respondents started their businesses through the help of NGOs and 3.1% through inherited capital, 1.3% through national government projects and 0.6% from proceeds of sale of assets owned. It was surprising to note that bank loans were not important and that only 8.8% of respondents had bank

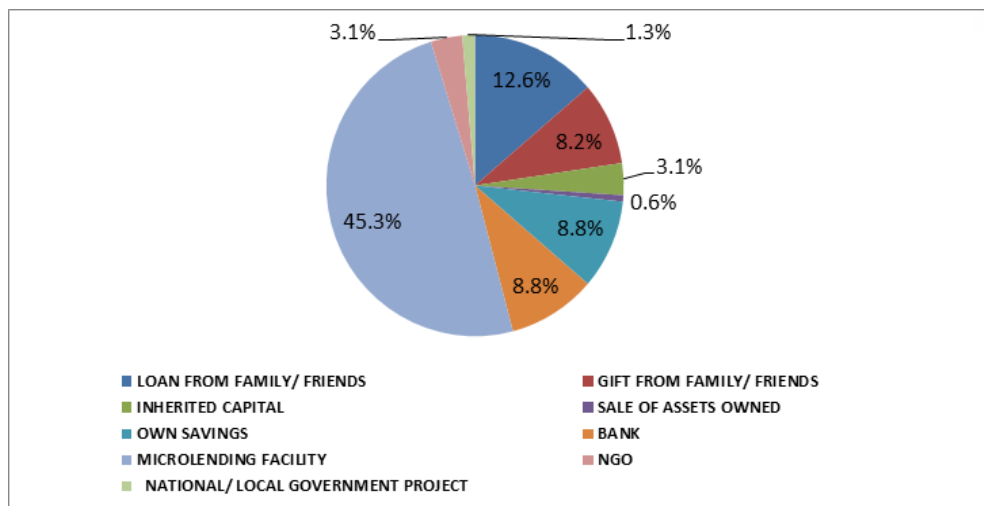


Figure 15: Main source of start-up capital for the businesses for all respondents (%)

## Business management

Table 6 shows that 84.3% of the respondents responsible for major decision-making regarding their businesses. In Gafsa, 81.5% of the respondents stated that they expanded their businesses substantially after they inherited or acquired it, while in Jendouba only 42% expanded their businesses. Regarding bookkeeping, 50% of the respondents in Jendouba had no written records and the other half of the sample did only bookkeeping through informal records of sales. In Gafsa, 75.3% had informal records of orders and sales.

Table 6: Business management

Factors	Gafsa	Jendouba	Total
<b>Main decision-maker of the business</b> <i>Myself</i> <i>Together with other owners</i> <i>Other owners</i>	N=30 66.7% 33.3%	N=30 66.7% 33.3%	N=153 <b>84.3%</b> 15.0% 0.7%
<b>Business substantially expanded after you inherited/ acquired it</b> <i>Yes</i> <i>No</i>	N=29 41.4% 41.4% 10.3% 6.9%	N=127 73.2% 22.0% 4.7% -	N=108 51.9% 48.1%
<b>Type of bookkeeping and account practices</b> <i>No written records</i> <i>Complete bookkeeping</i> <i>Simplified legal accounts</i> <i>Only through informal records of orders, sales</i>	N=28 18.2% 2.6% 3.9% 75.3%	N=126 50.0% 3.6% 3.6% 42.9%	N=154 18.2% 2.6% 3.9% <b>75.3%</b>

Table 7 shows that the maximum total land cultivated and rented land cultivated was 80 ha, and the minimum was 1 ha for both with an average of 14.6 ha for the total land cultivated. The total owned land cultivated varied between 1 and 75 ha with an average of 11 ha.

Paid workers varied between 1 and 20 with an average of 4 workers, the unpaid workers varied from 1 to 16 with an average of 2. Paid workers who were members of agripreneurs' families varied between 1 to 4 with an average of 1.63, the unpaid members of the family had a maximum of 4 persons and a minimum of 1 person who were involved in the businesses.

Table 7: Land, employment generated by the business for the whole sample

	N	Min	Max	Mean	S. deviation
Total land cultivation (Ha)	139	1	80	14.6	15.951
Total owned land cultivation (Ha)	120	1	75	11.0	12.897
Total rented land cultivation (Ha)	52	1	80	12.3	13.554
Persons worked in this business	157	1	20	4.19	3.673
Paid workers	107	1	20	4.32	3.845
Unpaid workers	94	1	16	2.11	1.811
Paid workers are members of your family	35	1	4	1.63	0.77
Unpaid are members of your family	62	1	6	1.95	1.193

## | On-farm and Off-farm costs, value of products

Table 8 shows that on-farm wages and salaries in both governorates varied between 400 and 10,800 TND with an average of 3,347 TND. Respondents complained about cost of agricultural input prices which varied between 240 and 80,000 TND with an average of 4,419 TND. It was reported that inputs got missing from the agricultural markets and prices fluctuated and increased rapidly and which could affect production and the income of agripreneurs. Off-farm costs, wages and salaries were lower, varying between 100 and 3,200 TND with an average of 937 TND, input market costs varied between 500 and 1,500 TND.

Table 8: On-farm and off-farm costs

	N	Min	Max	Mean	S. deviation
Farm (Tunisian Dinars)					
Wages and salaries	134	400	10,800	3,346.7	2,522.629
Raw materials	100	120	120,000	6,223.9	12,631.080
Agricultural inputs	117	240	80,000	4,419.0	9,684.226
Purchase cost of products sold without transformation	24	390	12,000	2,105.8	2,370.661
Operating expenses	85	800	40,000	1,467.4	4,450.827
Taxes	4	100	500	325.0	170.783
Insurance	47	450	2,800	604.8	730.828
Interests	83	80	8,045	1,584.8	1,358.251
Others	97	80	8,400	972.0	970.557

<i>Wages and salaries</i>	10	100	100	937.0	1,087.822
<i>Raw materials</i>	3	500	500	8,000.0	10,500.000
<i>Agricultural inputs</i>	3	500	500	1,066.6	513.160
<i>Purchase cost of products sold without transformation</i>	5	100	100	1,330.0	1,014.643
<i>Operating expenses</i>	7	100	100	6,442.8	10,160.029
<i>Taxes</i>	2	100	100	100.0	0.000
<i>Insurance</i>	4	45	45	318.7	458.446
<i>Interests</i>	3	240	240	990.0	1,221.925
<i>Others</i>	-	-	-	-	-

Table 9 shows that in both governorates of Gafsa and Jendouba, products sold without processing on farm that had the most important value were arboriculture and poultry products with an average of 46,100 TND and 46,817 TND, respectively. Legumes had an average value of 27,500 TND, milk production accounted for 21,637 TND, breeding 15,891 TND, cereals 15,146 TND, vegetables 15,550 TND, beekeeping had an average value of 7,053 TND and aromatics plants had the minimum average value with 6,266 TND.

For the off-farm products, beekeeping had a minimum of 6,600 TND and a maximum of 14,400 TND and an average of 9,134 TND.

**Table 9: Value of the products sold without processing**

	N	Min	Max	Mean	S. deviation
<b>Farm (Tunisian Dinars)</b>					
<i>Vegetables</i>	4	4,200	25,000	15,550.0	10,073.563
<i>cereals</i>	33	50	118,900	15,146.4	22,218.687
<i>Arboriculture</i>	9	1,800	300,000	46,100.0	96,965.561
<i>Breeding (sheep, cattle)</i>	36	1,000	100,000	15,890.8	18,137.625
<i>Legumes</i>	2	15,000	40,000	27,500.0	17,677.670
<i>Aromatic plants</i>	3	4,000	10,000	6,266.6	3,257.811
<i>Beekeeping</i>	22	1,100	30,000	7,052.9	6,675.670
<i>Milk production</i>	15	1,320	99,000	21,636.8	24,698.882
<i>Poultry farming</i>	15	72	10,8000	46,817.4	44,384.068
<b>Off farm (Tunisian Dinars)</b>					
<i>Garden pots</i>	1	210	210	-	-
<i>Beekeeping</i>	3	6,600	14,400	9,134	4,387.862

Beekeeping had the most important value among products sold with processing (57,600 TND) on farm and also off-farm with 42,000 TND with one respondent (Table 10). Only 2 respondents, one with carob juice which had a value of 2,500 TND and another with olive oil with a value of 1,200 TND.

Table 10: Value of the products sold with transformation

	N	Min	Max	Mean	S. deviation
Farm (Tunisian Dinars)					
Beekeeping	21	3,600	57,600	22,198.8	14,176.7
Carob juice	1	2,500	2,500	-	-
Olive oil	1	1,200	1,200	-	-
Off farm (Tunisian Dinars)					
Beekeeping	1	42,000	42,000	-	-

Business activities fluctuated monthly depending on prevailing agricultural activities. Figure 16 shows that between 1 to 15% of the agripreneurs had no activities on a monthly bases, especially in summertime after harvest. The busiest month seemed to be June with 54% of the respondents having maximum activity. January and February had medium level of activity.

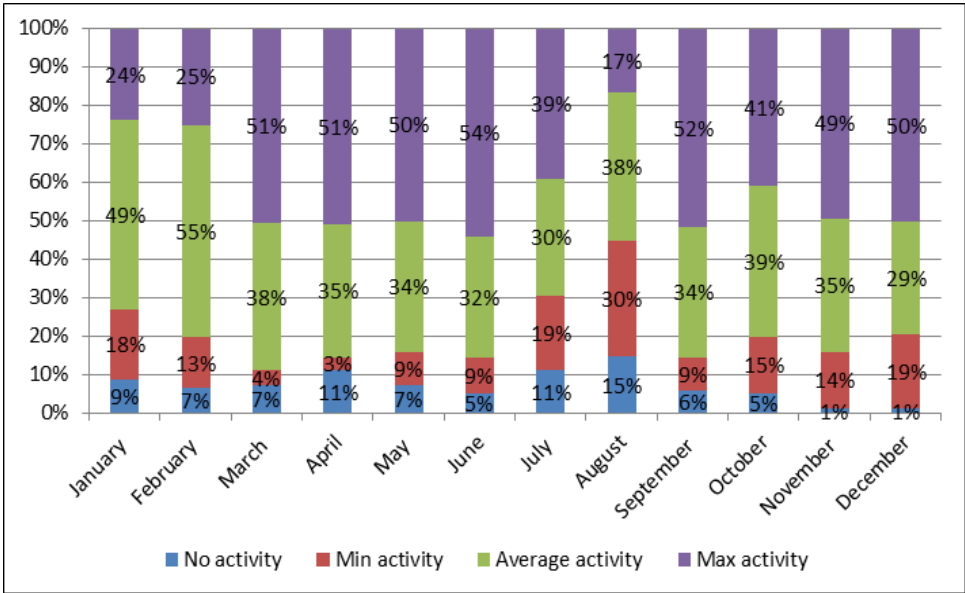


Figure 16: Business activity fluctuation within 12 months

In both governorates, the average minimum gross sale was 1,449 TND, and the average of maximum gross sale was about 3,841.6 TND (Table 11).



Table 11: Gross sale/revenue per month

In TND	N	Min	Max	Mean	S. deviation
Minimum gross sale/ revenue	121	120	10,800	1,449.9	1,223.967
Average gross sale/ revenue	121	360	16,200	2,561.4	1,788.400
Maximum gross sale/ revenue	121	600	21,600	3,841.6	2,467.203

| Business equipment

Most of the respondents (90%) in Gafsa used power-driven machineries in their operations against 56.3% in Jendouba. However, 53.9% and 27.3% of agripreneurs in Jendouba used automation and ICT, respectively. In Gafsa, only 10% and 3.3% of the respondents reported that they utilised automation and ICT, respectively.

Respondents in both governorates seemed to be resistant to changes and innovations. Nearly 95% of the respondents did not adopt any innovative product or service, innovative methods of growing crops/livestock, manufacturing products or offering services over the last 12 months. Most of them (94.3%) did not also purchase any new equipment, machinery, or software to develop or produce any innovative products or services and processes over the last 12 months.

Only 19.5% of the respondents introduced new marketing strategies or had significant change in the marketing strategies over the last 12 months in Jendouba, 6.5% of the respondents in Gafsa also fell in this category.

None of the respondents purchased or licensed any patented or non-patented inventions or other types of knowledge for the development of innovative products over the last 12 months.

Table 12: Business equipment and innovation

Factors	Gafsa	Jendouba	Total
<b>Power-driven machinery uses in the business</b> Yes No	N=30 <b>90.0%</b> 10.0%	N=128 56.3% 43.8%	N=158 <b>62.7%</b> 37.3%
<b>Automation uses in the business</b> Yes No	N=30 10.0% <b>90.0%</b>	N=128 53.9% 46.1%	N=158 <b>45.6%</b> 54.4%
<b>ICT uses in the business</b> Yes No	N=30 3.3% 96.7%	N=128 27.3% 72.7%	N=158 22.8% <b>77.2%</b>
<b>Introduction of any innovative product or service in this establishment over the last 12 months</b> Yes No	N=31 4.7% 95.3%	N=127 6.5% 93.5%	N=158 5.1% 94.9%

Factors	Gafsa	Jendouba	Total
<b>Introduction of any innovative methods of growing crops/ livestock, manufacturing products or offering services over the last 12 months</b> Yes No	N=31  0% 100.0%	N=127  3.1 96.9%	N=158  2.5% <b>97.5%</b>
<b>Introduction or significantly change of the marketing strategies over the last 12 months</b> Yes No	N=31  6.5% 93.5%	N=128  19.5% 80.5%	N=159  17.0% <b>83.0%</b>
<b>Purchase of new equipment, machinery, or software to develop or produce any innovative products or services and processes over the last 12 months</b> Yes No	N=31  9.7% 90.3%	N=127  4.7% 95.3%	N=158  5.7% <b>94.3%</b>
<b>Purchase or license any patented or non-patented inventions, or other types of knowledge for the development of an innovative product over the last 12 months</b> Yes No	N=31  0% 100%	N=128  0% 100%	N=159  0% <b>100%</b>

The most important source of information about new ideas or activities for some respondents (36.7%) were the suppliers. Agripreneurs contacted suppliers to buy products and often sought advice from them.

The second most important source of information was the internet (Google, Facebook groups about agriculture) for 26.7% of the respondents. Also, 11.3% of the respondents got information and knowledge from parents or other firm suppliers. Business associations and conferences, universities and research institutes and government ministries or organized programs were the least consulted sources of information. During the interviews a large number of the respondents complained about the absence of the extension services or the agricultural ministry who should advice them on how to manage their businesses.

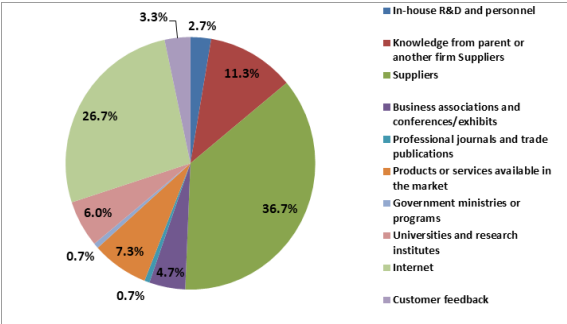


Figure 17: Sources of information or ideas for any innovation activity for the business

In Gafsa, 30.8% reported that they had no production targets, another 30.8% indicated that they had a combination of short-term and long-term while 34.6% focused on short-term (less than a year) achievement.

In Jendouba governorate, 66.1% of the respondents stated had short-term and long-term plan production targets, while 15.7% had long-term targets and 16% had short term plans.

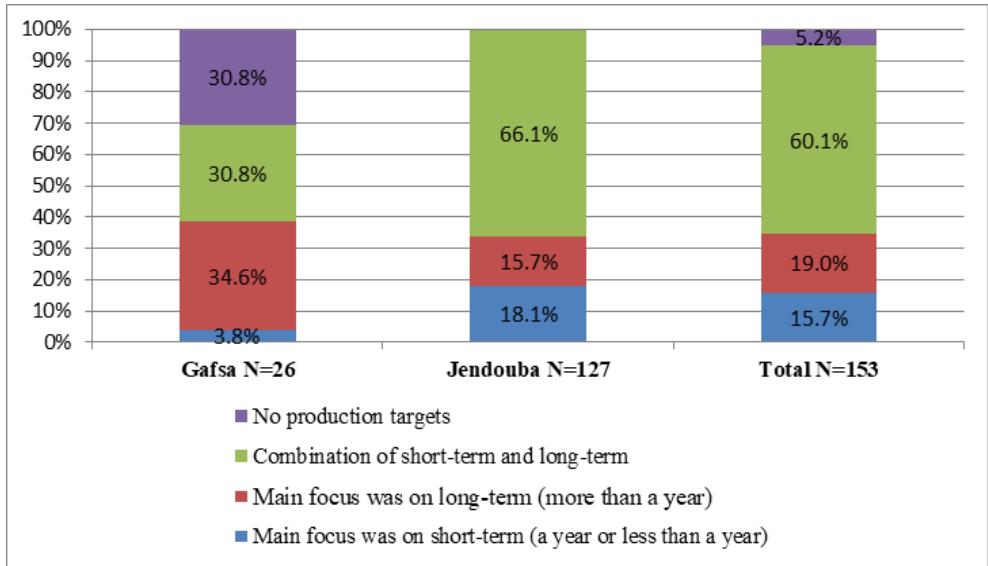


Figure 18: Time frame of production targets for the business (%)  
Success factors and challenges

This section is dedicated to the description of the potential success factors of young agripreneurs and also the potential challenges and constraints they faced at the commencement of their business activities, their current challenges were also assessed. Access to finance and land for young agripreneurs was assessed along with the programs set by the government in order to overcome the challenges faced by the youth in agri-business. The effect of social capital sourced from families and social networks on young agripreneurs' success rates was also assessed.

Support programs, success factors and entrepreneur perception

As shown in Table 13, 73.7% of the respondents in Gafsa declared that there were no support projects designed for them, only 18% in the governorate of Jendouba made similar claim. This could be explained by the presence of more NGOs and research organisations in Jendouba. Most respondents (90%) in both governorates considered themselves as entrepreneurs and 98% considered their business activities successful for many reasons. A quarter explained their success by the skills they had acquired and 15% stated good management and the love their for jobs as reasons. They liked what they had been doing and were ready to do all their best to sustain being in agribusiness. Networks were the most important for 14% of the respondents. Almost all respondents (98.1%) stated that there were a lot of competitions in agribusiness. Also,

39.2% of the respondents considered that they performed just like other businesses while 39.2% maintained that they performed better than the others.

About 20% of the respondents declared that being an entrepreneur was linked to their personal skills, 16% of the sample attributed it to the technical skills while 12% attributed it to good management ability

**Table 13 : Success factors, entrepreneurs’ perception**

	Gafsa	Jendouba	Total
<b>Are such support projects/ programs available in your country?</b> Yes No	26.3% 73.7%	82% 18%	74.8% 25.2%
<b>Do you consider yourself successful in your business activity?</b> Yes No	88% 12%	100% 0%	98% 2%
<b>What are the main success factors for this business activity?</b> <i>Good management</i> <i>Skills</i> <i>Experience</i> <i>Relational networks</i> <i>Worked Hard</i> <i>Monitoring</i> <i>Have a financial support</i> <i>Loves his job</i> <i>Other</i>			15% 25% 14% 13% 5% 3% 10% 15% 5%
<b>Do you consider yourself as an entrepreneur?</b> Yes No	50% 50%	98.4% 1.6%	90.8% 9.2%
<b>What does it mean for you to be an entrepreneur?</b> <i>Good management</i> <i>Experience</i> <i>Personal skills</i> <i>Technical skills</i> <i>Who worked hard</i> <i>Take risks</i> <i>Who invested</i> <i>Have a good relationship</i> <i>Independent</i> <i>Have a good cash flow</i> <i>Other</i>			12% 5% 20% 16% 9% 6% 4% 4% 5% 9% 10%
<b>Is there a lot of competition in your sector of activity?</b> Yes No	92.6% 7.4%	99.2% 0.8%	98.1% 1.9%

	Gafsa	Jendouba	Total
Is there a lot of competition in your sector of activity?			
Better than other businesses	48.0%	37.5%	39.2%
Just like other businesses	48.0%	61.7%	59.5%
Worse than other businesses	4.0%	0.8%	1.3%

## | Constraints/barriers confronted in business

Constraints and barriers confronted in the business differed at commencement and while the business had become established. As shown in Figure 19, respondents in both Gafsa and Jendouba were confronted by many barriers when they started their businesses, 65% of the agripreneurs complained about financial difficulties and 47% were confronted by price fluctuations (inputs and products), 17.6% complained about lack of machines or equipment and 6% complained about the lack of customers.

In Jendouba 38% complained about the supply of raw materials and 32.5% indicated that there was too much competition in term of sale of products.

Also, 20% in Gafsa complained about the lack of land and 6.6% complained about management difficulties.

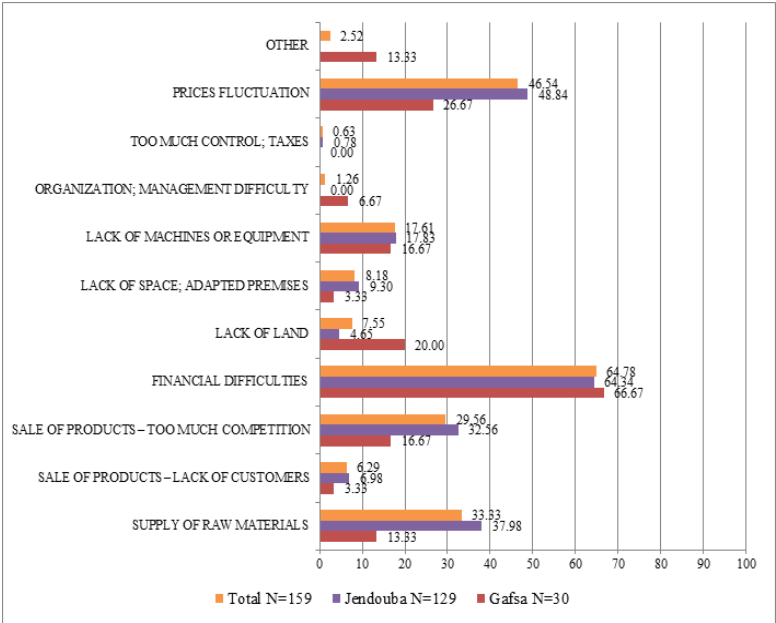


Figure 19: Constraints/barriers confronted when starting the business

Barriers did not stop after launching the businesses. Respondents in both Gafsa and Jendouba (63%) reported that they still faced the challenges posed by price fluctuation. Barriers related to the supply of raw materials was reported by 41.5% while 40% stated that they kept dealing with too much competition in terms of sale of products. About 36% of the respondents reported financial difficulties, while 10.1% were faced with lack of machines or equipment, 6.9% reported lack of land and 5.7% complained of lack of customers.

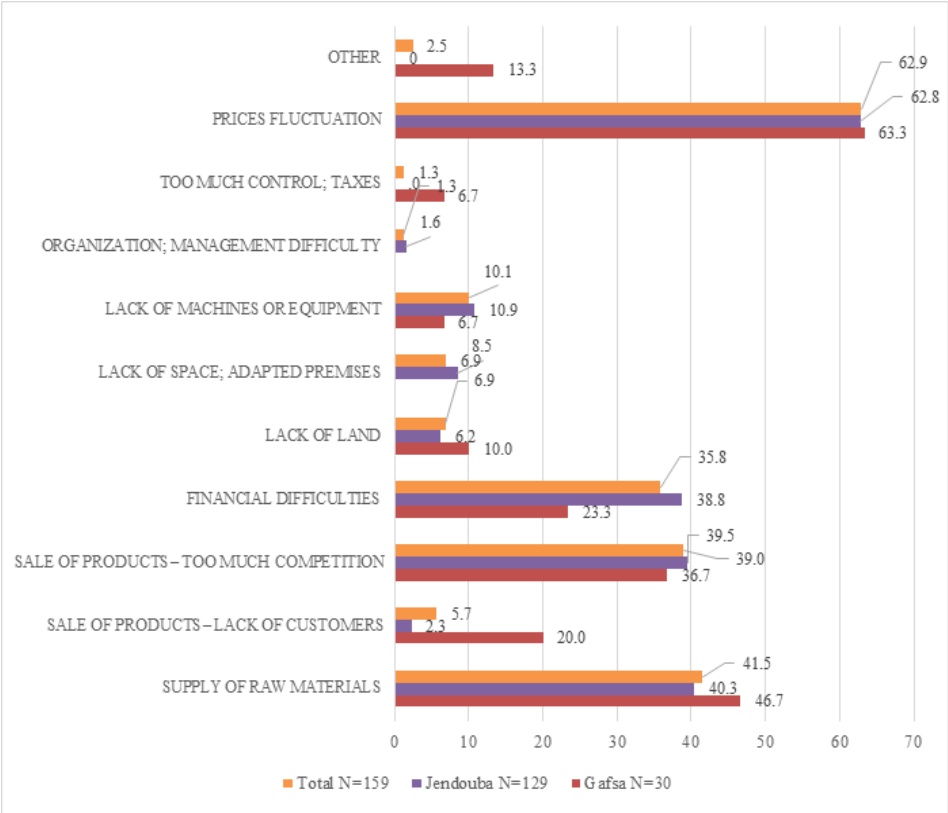


Figure 20: Constraints/barriers confronted now in running your business, %

In order to understand agripreneuers’ problems and to find the best way to address the problems, youth agripreneurs in both governorates of Gafsa and Jendouba were requested to suggest supports they would need to overcome their present constraints. A total of 51.6% of the respondents indicated that they needed support to have access to information on market, 27% needed training in organizational and financial management, 24.5% indicated technical training and assistance to obtain supply, 22.6% stated access to loans and 19.5% suggested access to modern machines (Figure 21).

In Gafsa, 33.3% needed access to more land to be able to have the capacity to extend their business and work more superficies to maintain their income. In Jendouba, 22.5% needed litigation with competitors.

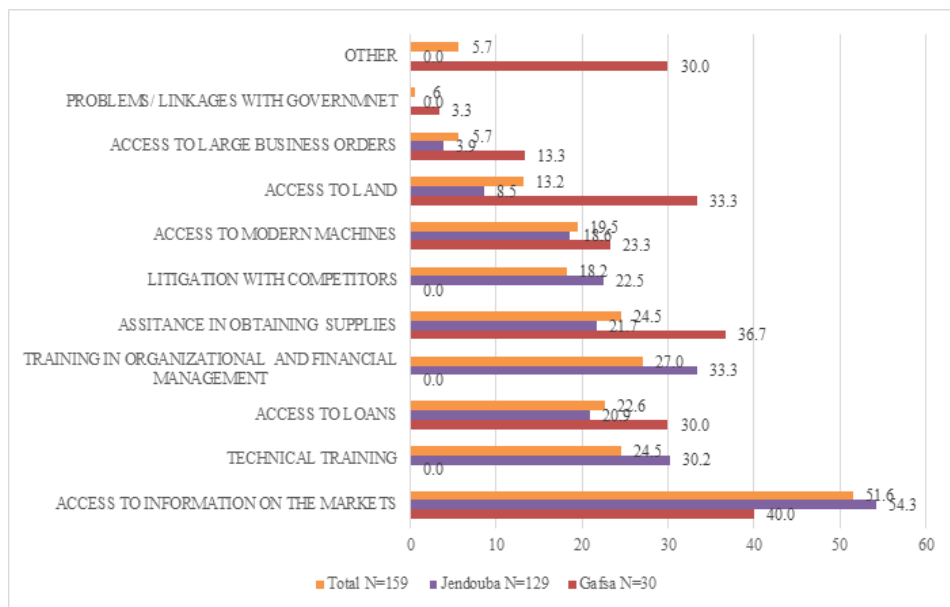


Figure 21. Supports wished to overcome the present constraints

## Access to finance and land

As shown in Table 14, 86.4% of the sample in both governorates of Gafsa and Jendouba had bank accounts and only 3.8% used mobile phones to make financial transactions. About half of the respondents (52.8%), 50.6% in Gafsa and 41.9% in Jendouba, had applied for loan for their businesses and 98.7% got loans from the banks.

Table 14: Access to finance by location (%)

	Gafsa	Jendouba	Total
<b>Do you have a Bank account?</b>			
Yes	N=30 82.2%	N=129 87.2%	N=159 86.4%
No	13.8%	12.8%	13.6%
<b>Have you ever applied for a bank loan for your business?</b>			
Yes	50.6%	41.9%	52.8%
No	40.4%	51.1%	47.2%
<b>If yes, did you get a loan?</b>			
Yes	N=13 92.3%	N=65 100%	N=78 98.7%
No	7.7%	0%	1.3%
<b>Do you consider yourself as an entrepreneur?</b>			
Yes	50%	98.4%	90.8%
No	50%	1.6%	9.2%

	Gafsa	Jendouba	Total
<b>Do you ever use mobile phone to make financial transactions?</b>	N=31	N=125	N=156
Yes	6.5%	3.2%	3.8%
No	93.5%	96.8%	96.2%
<b>Is there a lot of competition in your sector of activity?</b>			
Yes	92.6%	99.2%	98.1%
No	7.4%	0.8%	1.9%

Figure 22 shows the source of financing business activities. In Gafsa, 32.3% of the respondents got loans from family and friends when they needed money for their agribusinesses. A total of 16.1% sold assets, 15.1% approached banks, 12.9% got loans from microlending facilities while 9.7% used their own savings. In Jendouba, 54.8% reported that microlending facilities were their main sources of financing, 15.1% approached banks and 10.3% borrowed money from family members or friends.

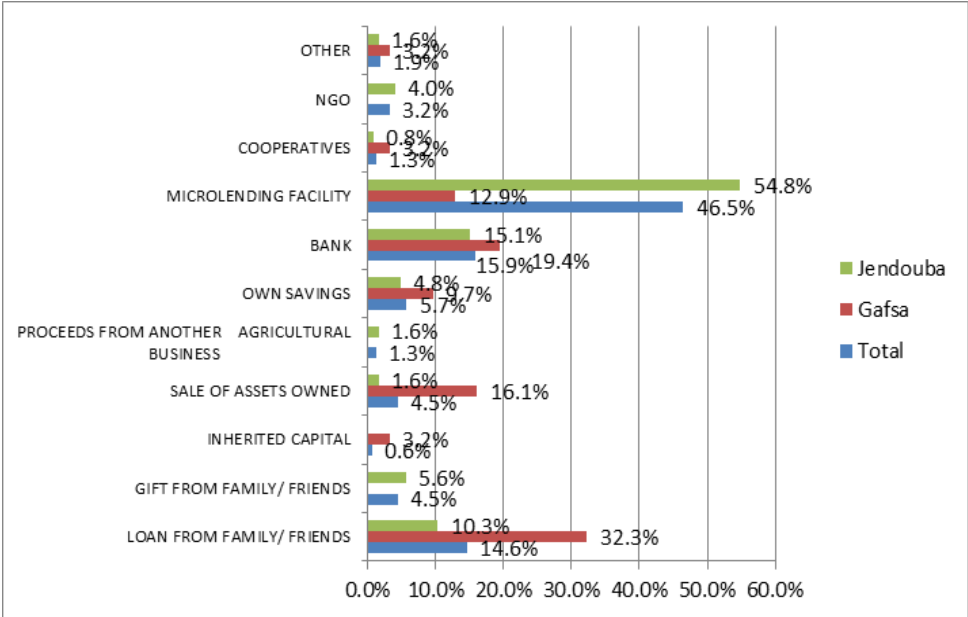


Figure 22: Main sources of financing by location (%)

Some respondents reported that they had never applied for loans from banks. Figure 23 shows that 41.3% of youth agripreneurs in both governorates complained about complicated procedures, 18.7% stated that interest rates were too high and 16% would not want to pay interest.

Few respondents (2.7%) reported that they did not require loans, 1.3% stated that loan tenure were too short and the amount of loan offered insufficient.



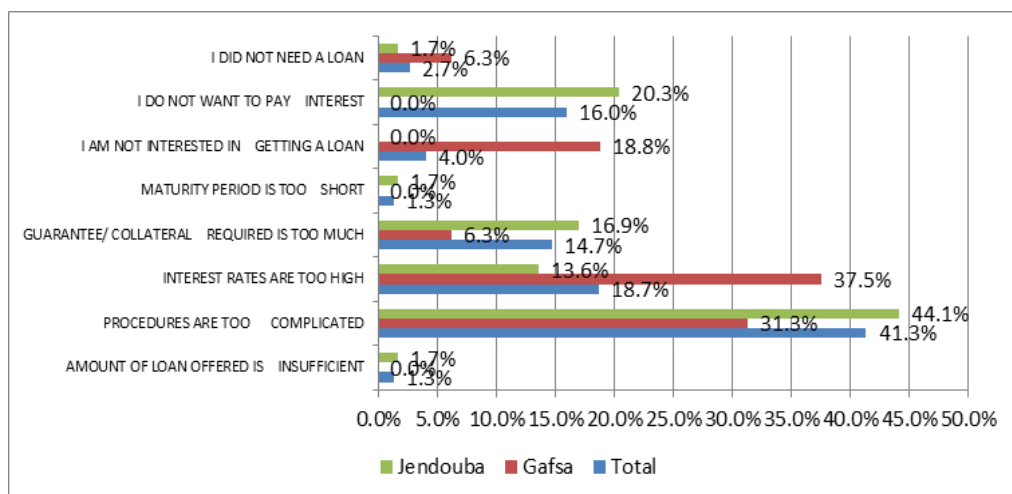


Figure 23: Reasons for not applying for loans

Table 15 shows that 86.7% of the respondents in the Gafsa and 69% in Jendouba desired to get more land to expand their businesses but 32.7% of the respondents in both governorates reported that they were not able to access more land while 88.5% indicated that they could not access (acquire) more land because of lack of funds.

In Gafsa 88.9% had legal property rights for all plots they utilised against 40.5% in Jendouba, where only 29.4% had property rights for some plots and 30.2% did not have any legal property rights for land they operate on. A significant proportion of the respondents indicated that the lack of property rights for the land they operate on had prevented them from expanding their businesses (60% in Gafsa and 47.2% in Jendouba).

Table 15: Access to land, by location

	Gafsa	Jendouba	Total
<b>Would you like to get more land to expand your business?</b>	N=30	N=126	N=156
Yes	86.7%	69.0%	72.4%
No	13.3%	31.0%	27.6%
<b>If you wanted to get more land today, would you be able to get it?</b>	N=30	N=126	N=156
Yes	43.3%	30.2%	32.7%
No	56.7%	69.8%	67.3%
<b>If not, what is the main reason for you not being able to get more land?</b>	N=17	N=87	N=87
No capital to buy land	88.2%	88.5%	88.5%
No land available	5.9%	6.9%	6.9%
Other	5.9%	4.6%	4.6%

	Gafsa	Jendouba	Total
<b>Do you feel secure from eviction from your parcel of land?</b>	N=25	N=126	N=151
Yes	12.0%	72.2%	62.3%
No	88.0%	27.8%	37.3%
<b>Do you have any legal property rights for the land you use?</b>	N=27	N=126	N=153
Yes, for all plots	88.9%	40.5%	49.0%
Yes, for some plots	0%	29.4%	24.2%
No	11.1%	30.2%	26.8%
<b>Does the lack of property rights for the land you use prevent you from expanding your business?</b>	N=5	N=125	N=130
Yes	60.0%	47.2%	47.7%
No	40.0%	52.8%	52.3%

## Support received from the government, international organization, or NGO

Figure 24 shows that in Gafsa, 63.3% of the respondents had not received any support from the government or international organization or an NGO, while 16.7% got assistance in form of supplies and technical training, 13.25% had access to both information on market and modern machines, 10% accessed loans and 6.7% got training in organizational and financial management.

In Jendouba, 34.9% of respondents had not received any support from the government or international organization or an NGO, 27.9% had access to information on the market, 19.7% got technical training, 17.8% had access to loans and to modern machines, 12.4% got training in organizational and financial management and 5.4% obtained supplies.

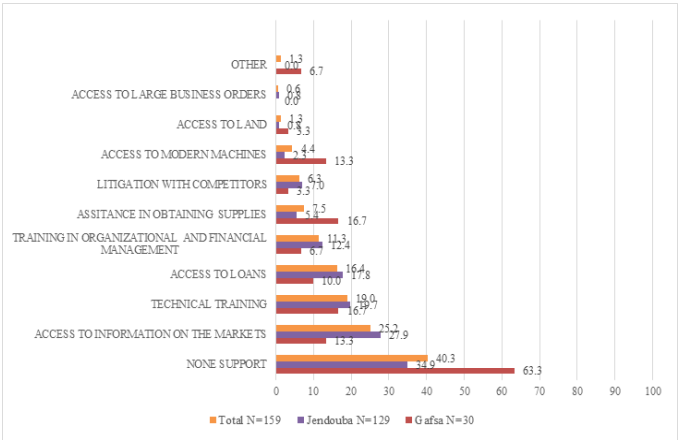


Figure 24: Supports received from the government, international organization or an NGO

As shown in Figure 25, in Gafsa, 80% of the respondents were somewhat satisfied by the support provided and 20% were not satisfied. In Jendouba, 46% of the respondents were somewhat satisfied, 18.1% were very satisfied, 6.3% were not satisfied while 30% were indifferent.

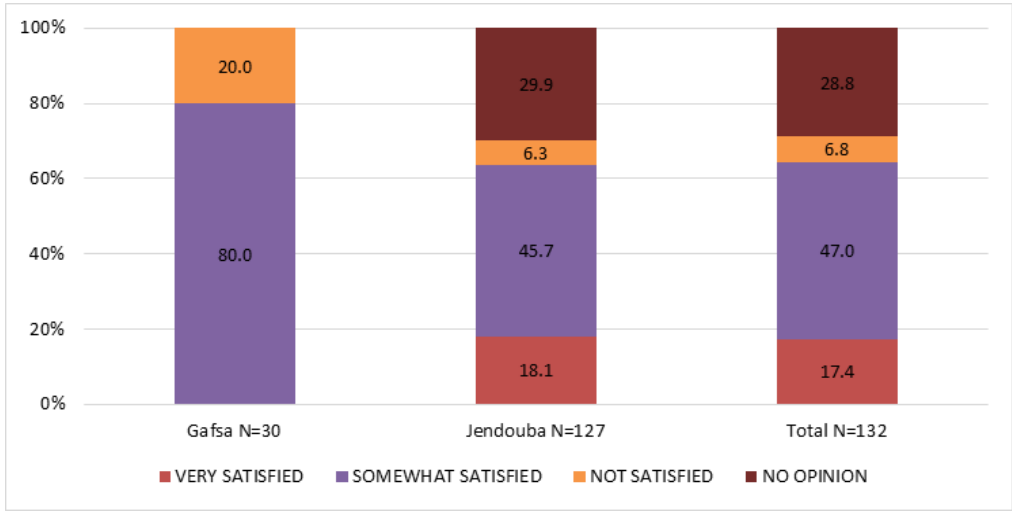


Figure 25: Satisfaction degree to the support provided, %

## | Social capital

This section shows an overview of the social relations of the respondents in both governorates of Gafsa and Jendouba. As shown in Table 16, the number of close relations respondents had was an average of 3 people. If the respondent suddenly needed a small amount of money, they could turn to 2 people who would be willing to provide the required money.

The amount of money enough to pay expenses for their household for one week was a minimum 80 TND and a maximum 6,000 TND with an average of 392 TND. This difference could be explained by the number of household members and by the social and economic differences existing between households. The respondents had an average of one close person who could provide required amount, so they had good social capital and they always had someone from the family or among friends who could help them with loan/fund. Respondents in both governorates had an average of one relatively close person who was involved in their businesses.

Table 16: Social capital

	N	Min	Max	Mean	Std. Deviation
Close people you have these days	159	0	12	3.5	2.05
If you suddenly needed a small amount of money how many people could you turn to who would be willing to provide this money	159	0	10	2.33	1.85

	N	Min	Max	Mean	Std. Deviation
Out of those people, how many are members of your family?	143	0	10	1.85	1.3
Amount of money enough to pay for expenses for your household for one week	152	80	6000	391.51	527.9
[If G2 not zero] Of those people, how many do you think are currently able to provide this money?	152	0	5	1.46	0.96
In the past 12 months, how many people with a personal problem have turned to you for assistance?	152	0	5	0.87	1.096
Out of those people, how many are members of your family?	151	0	3	0.47	0.728
[If G4 not zero] How many of those people you were able to help?	140	0	5	1.04	1.156
Out of those people, how many are members of your family?	139	0	3	0.65	0.778
How many of your close relative and friends work in the same business as you?	159	0	6	1.58	1.523

In both governorates, 69% of the respondents got advice from their relatives and friends on running their businesses (Tabl. 17), 59% lived in the same household with their parents, 61% of the respondents in Gafsa and 21% of the respondents in Jendouba inherited wealth from their parents. However, 69% of the respondents in Gafsa and 27% in Jendouba expected to inherit wealth from their parents. A total of 67% of the respondents indicated that their parents wanted them to become agripreneurs.

A large number of respondents (84.7%) did not belong to any business associations, 63.3% of the respondents got help from their friends and family members in marketing to get more clients in order to maximize their profit.

Table 17: Family background

	Gafsa	Jendouba	Total
<b>Do you get an advice on running your business from your close relatives and friends?</b> <i>Yes often</i> <i>Yes rarely</i> <i>No</i>	N=31  61% 23% 16%	N=128  70% 22% 8%	N=159  69% 22% 9%
<b>Do you live in the same household as your parents?</b> <i>Yes</i> <i>No</i>	52% 48%	61% 39%	59% 41%
<b>Have you inherited any wealth from your parents?</b> <i>Yes</i> <i>No</i>	N=31 61% 39%	N=127 21% 79%	N=158 29% 71%

	Gafsa	Jendouba	Total
<b>Are you expecting to inherit wealth from your parents in the future?</b>	N=29	N=128	N=157
Yes	69%	27%	35%
No	20%	12%	14%
Do not Know	10%	60%	51%
<b>Did your parents want you to become an agripreneur?</b>	N=27	N=128	N=155
Yes	48%	70%	67%
No	15%	6%	7%
Do not Know	37%	24%	27%
<b>Do you get advice on running your business from your parents?</b>	N=30	N=128	N=158
Yes	63.3%	77.3%	74.7%
No	36.7%	22.7%	25.3%
<b>Have your parents ever proposed you for an occupation?</b>	N=26	N=128	N=154
Yes	80.8%	79.7%	79.9%
No	19.2%	20.3%	20.1%
<b>Do you belong to any of the business associations?</b>	N=29	N=128	N=157
Yes	27.6%	12.5%	15.3%
No	72.4%	87.5%	84.7%
<b>Do members of your personal network help you to get new clients?</b>	N=31	N=128	N=159
Yes	51.6%	75%	70,44%
No	48.4%	25%	29,55%

## | Perceptions and aspirations of the agripreneurs

The perceptions and aspirations of young people regarding their engagement in the agricultural sector are highly crucial for the design and implementation of policies and programs seeking to promote youth employment in agriculture.

Njeru et al (2015) stated that agricultural education, both in and out of school settings, can play a crucial role in shaping the perceptions and aspirations of youth towards agriculture and in activities along the downstream stages of the value chains.

Figure 26 shows the main reasons respondents chose their business activities, in both governorates of Gafsa and Jendouba; 27.6% chose their agribusiness because it was a family tradition, 19.2% claimed they chose their line of agribusiness because it was easy to set up, 20% of the respondents set up their ventures just because they needed to be independent, 14.1% indicated it was profession they knew well, 7.7% claimed their business gave good income while 6.4% reported that their agribusiness had more stable returns than other activities or sectors.

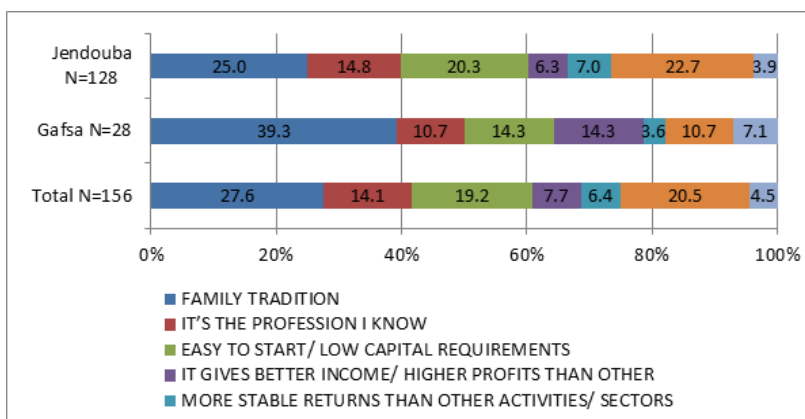


Figure 26: Main reasons for choice of business activity (%)

*In Gafsa and Jendouba, 38.5% and 60%, respectively, of the respondents indicated that they opted for their business activities because better jobs were not available. However, 41.3% of the respondents reported that they opted for their business activity because it was what they wanted to do in life and only 2.6% of the respondents engaged in agribusiness because their parents wanted them to do so.*

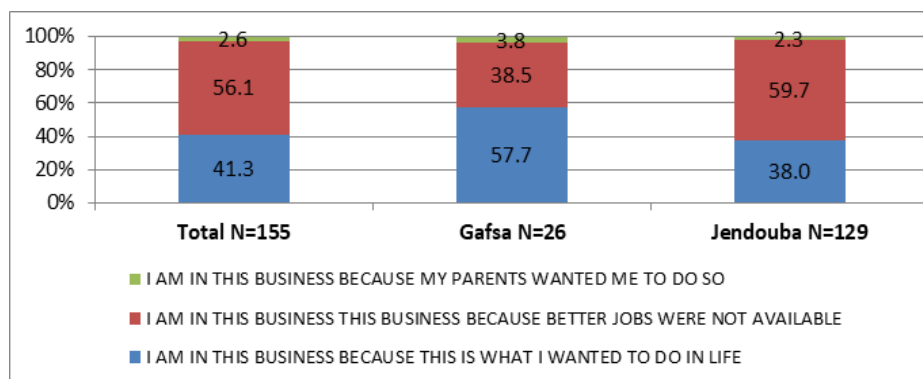


Figure 27: Reasons for being in agribusiness

As shown in Table 18, a large part of the sample in both governorates (97.5%) desired to continue their businesses in the future, 18.6% looked forward to having a different job opportunity. About 25.8% of the respondents in both governorates were very satisfied with what they were engaged in, 63.5% were somewhat satisfied, 8.8% were not satisfied and 1.3% were not satisfied at all. However, 86% of the respondents considered food and agriculture sector as an attractive sector to work in.

**Table 18: Aspiration for the future**

	Gafsa	Jendouba	Total
When you think about the future, do you want to continue your business?	90.0%	98.4%	97.5%
Are you looking for a different job/ business opportunity?	14.3%	19.5%	18.6%
Do you think food and agriculture sector is an attractive sector to work in?	69.9%	89.9%	86.0%
Do your peers consider it as an attractive sector to work in?	62.5%	88.4%	84.3%
Overall, how satisfied are you with what you do now?			
Very satisfied	43.3%	21.7%	25.8%
Somewhat satisfied	43.3%	68.2%	63.5%
Not satisfied	6.7%	9.3%	8.8%
Not satisfied at all	6.7%	–	1.3%
No opinion	–	0.8%	0.6%

## | Factors affecting the success of young agripreneurs

The success of the agripreneurs depends on environmental factors such as social, economic, legal, political and technological factors which influence their activities thus leading to successful entrepreneurship (Khan, 2014).

## | Agripreneur typology

The distinction between successful and less successful agripreneurs was based on the objective criteria (gross sale per month) and subjective criteria (consider him/herself as successful). For the first criteria, we considered successful agripreneurs as a farmer which had a gross sale per month higher than the average gross sale of all respondents.

Figure 28 shows that 70.4% of the respondents were considered successful in their business activity. By location, Jendouba had the highest percentage of successful agripreneurs (76% against 53.3% in Gafsa).

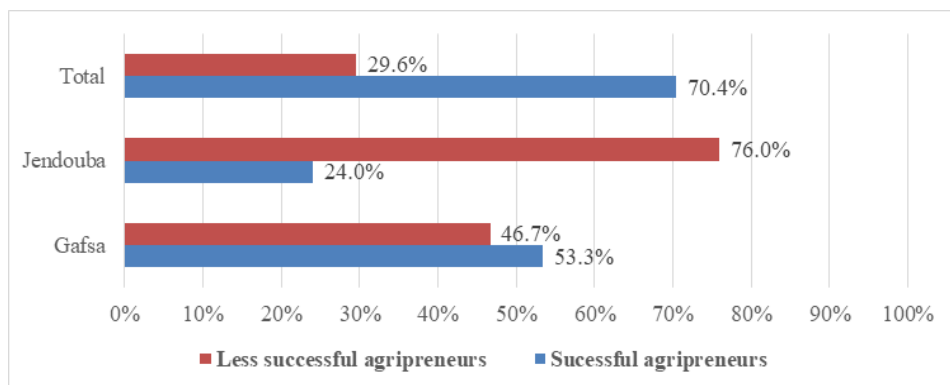


Figure 28: Distinction between successful and less successful agripreneurs (%)

## | Socio-Economic and Demographic Factors

The socio-economic factors are the major key factors influencing entrepreneurial behavior and operation of businesses (Khan, 2014). This section was guided by the following research questions: What are the socio-economic determinants of agripreneur's business success? What are the capacity building determinants of agripreneur's business success?

According to Heimer (1997), the socio-economic status is a combination of occupation, income and education. Kristiansen et al. (2003) found that human capital or human resource such as age, gender, education and experience is a further influence on the decision to become self-employed. Shenbaga et al. (2013) revealed that the most influencing motivating factors of the entrepreneurs are educational qualification, type of business, marital status, form of organization, source of fund, family type, age, lack of adequate educational background and/or education training institutions.

The results for the socioeconomic factors such as gender, education level, relationship to the head of the household and marital status had statistically significant relationship with agripreneurs' business success.

Ager (2015) did a study in Malawi which revealed that gender does affect the ability of an agripreneur to attain business success. The study was able to determine that women in Malawi due to the inability to own land as prescribed by the prevailing cultural norms, could only access financing through farming organizations. Successful agripreneurs were composed of 66% while the female had a representation of 40%. The successful female agripreneurs had a higher percentage than the less successful ones (40% against 11%).

Subramaniam (2010) found that the younger generations were much more interested to become entrepreneurs. Most of the young micro enterprises entrepreneurs in his study were very motivated to venture into their own businesses. They also gained support and help from their relatives and



parents. Age as a factor does not have significant relationship with success as an agripreneur. For the successful agripreneurs, the youth were aged between 35 and 39 years (36.6%) and between 40 and 45 years (19.6%). However, the less successful agripreneurs were younger and probably less experienced than the successful ones.

The relationship to the head of the household as a factor had a significant relationship with success of the agripreneur. More than half of successful agripreneurs were sons or daughters while 55.3% of the less successful agripreneurs were heads of the households. Marital status had a significant relationship with success agriprenuership as 54.5% of the successful agripreneurs were single, while 68.1% of the less successful agripreneurs were married.

One of the major conclusions of Kiplimo et al. (2015) is that general education is a strong positive stimulus to the success of entrepreneurs. Dickson et al. (2008) were able to ascertain that the measure of general education is usually in total number of years in education. This study confirmed that the education level was the major factor which correlated with the success of agripreneurs. The greatest proportion of successful agripreneur respondents were university degree holders at 58.9% while 80.9% of the less successful agripreneurs had a secondary level education. In addition, the successful agripreneurs were more educated than the less successful ones in terms of field of studies: science, mathematics, data science (28.4% against 3.8% respectively), Humanities and arts (11.4% against 3.8% respectively), Agriculture and veterinary science (10.3% against 3.8% respectively).

According to Schulenberg et al. (1984), family size appears to influence adolescent career aspirations because parents with large families tend to have less money to help the older children in attending college, while younger children may receive more financial assistance since the financial strain is less once the older children leave home. Pushpalatha (2013) found that majority of the women in Andhra Pradesh, India who ventured into entrepreneurship had an average family size of 2–3 members. The study showed that the average family size for the successful agripreneurs was 4.27 against 4.49 for the less successful ones.

According to Dunn and Holtz-Eakin (2000) high income households are not only able to easily provide the necessary financial resources for entrepreneurial firm growth but are likely to see more entrepreneurial growth opportunities. Rajjman (2001) posited that financial resources in the family have direct bearing on entrepreneurial intentions. The study was in line with literature which showed that successful agripreneurs had an average monthly total income higher than the less successful ones (2,313 TND against 1,274, respectively). Also, the average number of persons in the household who earned income for the successful agriprenuership was greater than those of the less successful ones (2.14 persons against 1.77).

Table 19: Sociodemographic characteristics of the agripreneurs by group (%)

	$\chi^2$ test	Less successful	Successful
<b>Gender</b> Male Female	9.102**	<b>89.4%</b> 10.6%	66.1% <b>39.9%</b>
<b>Age</b> 15-24 25-29 30-34 35-39 40-45	7.518	2.1% 27.7% <b>34.0%</b> 27.7% 8.5%	4.5% 16.1% 23.2% <b>36.6%</b> <b>19.6%</b>
<b>Relationship to the head of the household</b> Head Spouse / partner Son / daughter Parent	16.378***	<b>55.3%</b> 10.6% 29.8% 4.3%	28.6% 19.6% <b>51.8%</b> 0.0%
<b>Marital status</b> Single / never married Engaged to be married Married Separated / divorced	8.969**	31.9% 0.0% <b>68.1%</b> 0.0%	<b>54.5%</b> 1.8% 42.9% 0.9%
<b>Education level</b> Primary (incomplete) Primary (complete) Secondary Professional school University Post-graduate	46.106***	0.0% 4.3% <b>80.9%</b> 2.1% 12.8% 0.0%	1.8% 3.6% 24.1% 7.1% <b>58.9%</b> 4.5%
<b>Field studies</b> Humanities and arts Social sciences Business Law Science, mathematics, data science Engineering, manufacturing, construction Agriculture and veterinary science Health Other	42.496***	3.8% 0.0% <b>11.5%</b> 0.0% 3.8% 3.8% 3.8% 0.0% <b>73.1%</b>	<b>11.4%</b> 5.7% <b>12.5%</b> 5.7% <b>28.4%</b> <b>11.4%</b> <b>10.2%</b> 3.4% 11.4%
<b>Family size</b> Number of persons in the household (Average)		4.49	4.27
<b>Income</b> Number of persons in the household who earn income Average monthly total income (Tunisian dinar)		1.77  1273.8	<b>2.14</b>  <b>2313.4</b>

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%.

Family background of the entrepreneurs is a factor that can contribute to business success. Sefiani (2013) found that successful entrepreneurs come from well educated parents. Wadhwa et al. (2009) found that entrepreneurs usually come from middle-class or upper lower-class background. These entrepreneurs usually have higher education. They do not necessarily have entrepreneur parents. About half of the sample in the study were the first in their families to start a business venture. They are motivated to start a business because they want to gain wealth through their profitable business idea (Mohd and Chin, 2020). This study showed that the less successful and the successful agripreneurs had mostly parents with elementary occupations (between 70-74% for fathers and about 95% for mothers). However, the highest level of fathers' formal education had a significant effect on the success of agripreneurs. Also, 18.8% of successful agripreneurs had fathers with secondary or university level of education against 2.7% for the less successful ones. Indeed, only the successful agripreneurs had mothers with secondary and university level of formal education.

Table 20. Family background (%)

	$\chi^2$ test	Less successful	Successful
<b>Highest level of formal education that your father has successfully completed</b> <i>No formal schooling</i> <i>Primary (incomplete)</i> <i>Primary (complete)</i> <i>Secondary</i> <i>Professional school</i> <i>University</i>	11.824*	14.3% <b>52.4%</b> 21.4% 0% 9.5% 2.4%	15.2% 33.9% 27.7% <b>13.4%</b> 3.6% <b>5.4%</b>
<b>Highest level of formal education that your mother has successfully completed</b> <i>No formal schooling</i> <i>Primary (incomplete)</i> <i>Primary (complete)</i> <i>Secondary</i> <i>Professional school</i> <i>University</i> <i>Do not know</i>	10.292	<b>51.4%</b> 35.1% 8.1% 0% 2.7% 0% 2.7%	33.3% 41.9% <b>15.2%</b> <b>6.7%</b> 1% 1.9% 0%
<b>Father occupation</b> <i>Armed Forces occupations</i> <i>Managers, senior officials and legislators</i> <i>Professionals</i> <i>Technicians and associate professionals</i> <i>Clerks</i> <i>Service and sales workers</i> <i>Skilled agricultural, fishery, and forestry workers</i> <i>Craft and related trades workers</i> <i>Plant and machine operators and assemblers</i> <i>Elementary occupations</i>	2.640	6.4% 2.1% 4.3% 8.5% 0% 6.4% 0% 0% 2.1% <b>70.2%</b>	6.2% 2.7% 4.5% 7.1% 0% 2.7% 1.1% 0% 0.9% <b>74.1%</b>

	$\chi^2$ test	Less successful	Successful
<b>Mother occupation</b> <i>Armed Forces occupations</i> <i>Managers, senior officials and legislators</i> <i>Professionals</i> <i>Technicians and associate professionals</i> <i>Clerks</i> <i>Service and sales workers</i> <i>Skilled agricultural, fishery, and forestry workers</i> <i>Craft and related trades workers</i> <i>Plant and machine operators and assemblers</i> <i>Elementary occupations</i>	4.086	2.1% 0% 0% 0% 0% 0% 0% 2.1% 0% 95.7	0% 0.9% 0% <b>2.7%</b> 0% 0% 0% 1.8% 0% 94.6%

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%.

Smith (2004) strongly believed that agripreneurship was the future of agriculture. He believed that the farmer must see himself as an entrepreneur and, therefore, equip himself with the necessary entrepreneurial skills. Spais (2010) found out that formal training for agripreneurs resulted in a deepened understanding of entrepreneurship concepts. Secondly, agripreneur’s education opened up new directions in terms of corporate globalization and brought about improvement in the knowledge economy. This study was in line with literature and showed that the formal education/training/apprenticeship in the field of agriculture and agribusiness was a significant factor to the success of agripreneurs. In this sense, 69.4% of the successful agripreneurs had taken formal education/training in the field of agriculture and agribusiness. In addition, 14.4% of the successful agripreneurs had received informal apprenticeship/training in the field of agriculture and agribusiness with an employer as part of their education against 7.5% for the less successful ones.

Table 21. Capacity building (%)

	$\chi^2$ test	Less successful	Successful
<b>Formal education/ training in the field of agriculture and agribusiness</b> <i>Yes</i> <i>No</i>	13.297***	 38.3% 61.7%	 69.4% 30.6%
<b>Apprentices/trainings in the field of agriculture and agribusiness with an employer as part of your education</b> <i>Yes, formal apprentices/trainings</i> <i>Yes, informal apprentices/trainings</i> <i>No</i> <i>Yes, informal and formal apprentices/trainings</i>	9.390**	 12,5% 7,5% <b>77,5%</b> 2,5%	  <b>16.3%</b> <b>14.4%</b> 51.9% <b>17.3%</b>

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%.

## | Migration experience

Migration is often approached from its problematic angle, as a result, migrant entrepreneurs are addressed in the category of necessity entrepreneurs (Chrysostome, 2010). Furthermore, entrepreneurship is seen as a coping strategy for economic adaptation and as a solution for livelihood generation (Portes, 2006). Such underlying assumptions denote that entrepreneurship is an outcome of migration, a post-migration phenomenon partly rooted in the migratory transformation. This is one form of emerging entrepreneurship of migrants, but there are also those who search, identify and migrate for opportunities and business development (Elo and Volovelsky, 2017), and those who seek them after returning (Bai et al, 2018). This study showed that the successful agripreneurs lived mainly in the rural area (62.9% against 80% for the less successful ones) and in the urban area (26.4% against 15.6% for the less successful ones). The main reason for moving to the current/last residence was considered as a significant factor affecting the success of agripreneurs. In this sense, successful agripreneurs declared that education or training were the main reason for moving to their current residence (9.9%) or last residence (20.8%) against 0% and 4.8%, respectively for the less successful ones. A small proportion of Tunisian agripreneurs (10%) had the intention to move to towns (between 53.8% and 57.1%) or another country (35.7% for the successful ones).

**Table 22: Migration experience (%)**

	$\chi^2$ test	Less successful	Successful
<b>Locality</b> Rural area Town City Another country Other	5.790	<b>80%</b> 15.6% 0% 2.2% 2.2%	62.9% <b>26.4%</b> 3.3% 1.1% 0%
<b>Main reason for moving to your current residence</b> To accompany / join family For education / training For work / looking for work Farming Housing Returning home Other	26.604***	37.5% 0% 3.6% 7.1% <b>21.4%</b> 0% 32.1%	<b>71.8%</b> <b>9.9%</b> 2.8% 4.2% 1.4% 1.4% 8.5%
<b>Main reason for moving to your last residence</b> To accompany / join family For education / training For work / looking for work Farming Housing Other	29.168***	9.5% 4.8% 4.8% 0% 14.3% 66.7%	<b>50.9%</b> <b>20.8%</b> 1.9% 7.5% 0% 18.9%

	$\chi^2$ test	Less successful	Successful
<b>Intention to move</b> Yes No Do not know	0.023	10.9% 63% 63.3%	10.1% 26.1% 26.6%
<b>Moving to</b> Rural area Town Another country	1.532	23.1% 53.8% 23.1%	7.1% 57.1% <b>35.7%</b>

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%.

## Access to finance and land

Regarding the access to finance and land, more than half of the successful agripreneurs had applied for a bank loan for their businesses and 98.2% obtained loans (47.8% applied for bank loans and 82.3% were granted among the less successful agripreneurs). The major source of financing for the business activities of the less successful and successful agripreneurs were microlending facilities (39.1% against 49.5%, respectively), followed by bank loans (19.6% against 14.5%, respectively) and loans from family members/friends (15.2% against 14.4%, respectively).

Table 23: Access to finance (%)

	$\chi^2$ test	Less successful	Successful
<b>Have you ever applied for a bank loan for your business?</b> Yes No	0.207	47.8% 52.2%	<b>51.8%</b> 48.2%
<b>If yes, did you get a loan?</b> Yes No	0.398	82.3% 17.7%	<b>98.2%</b> 2.8%
<b>Source of financing for your business activity</b> Loan from family/ friends Gift from family/ friends Inherited capital Sale of assets owned Proceeds from another agricultural business Own savings Bank Microlending facility Cooperatives NGO Other	4.863	15.2% 4.3% 2.2% 4.3% 2.2% 6.5% 19.6% <b>39.1%</b> 2.2% 2.2% 2.2%	14.4% 4.5% 0.0% 4.5% 0.9% 5.4% 14.4% <b>49.5%</b> 0.9% 3.6% 1.8%

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%.

In terms of land, the majority of the less successful and the successful agripreneurs desired to get more land to expand their businesses (77.8% against 70.3%, respectively) and 66.7% of the less successful and 67.6% of the successful agripreneurs were able to access loans. However, 28% of the successful agripreneurs had no legal property rights for the land they operate on and 45.9% stated that the lack of property rights prevented them from expanding their businesses.

**Table 24. Access to land (%)**

	$\chi^2$ test	Less successful	Successful
<b>Would you like to get more land to expand your business?</b> Yes No	0.904	77.8% 22.2%	70.3% <b>29.7%</b>
<b>If you wanted to get more land today, would you be able to get it?</b> Yes No	0.012	33.3% <b>66.7%</b>	32.4% <b>67.6%</b>
<b>Do you have any legal property rights for the land you use?</b> Yes, for all plots Yes, for some plots No	2.580	59.1% 18.2% 22.7%	45.0% 26.6% <b>28.4%</b>
<b>Does the lack of property rights for the land you use prevent you from expanding your business?</b> Yes No	0.502	53.1% 46.9%	45.9% <b>54.1%</b>

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%.

## | Entrepreneurship

Entrepreneurs are the main drivers of economic growth and prosperity in societies. One of the most important entrepreneurial functions in order to achieve their goals is decision making, which is definitely the backbone of all entrepreneurial activities (Harris, 1998). This study confirmed that successful agripreneurs were mostly sole owners of their businesses (71.4%), who had substantially expanded their businesses (75.7%) and were the main decision makers in their establishment (87%). In addition, most of the successful agripreneurs (76.4%) started their business on their own and utilised microlending facilities (59.9%) as the main source of start-up capital.

**Table 25: Entrepreneurship (%)**

	$\chi^2$ test	Less successful	Successful
<b>Do you own this business?</b> Yes, I am the only owner Yes, together with my parents Yes, together with other members of my family Yes, together with other non-relatives	6.024	56.8% 31.8% 11.4% 0.0%	

	$\chi^2$ test	Less successful	Successful
<b>Does this business belong to your family?</b> Yes	3.282*	<b>43.5%</b>	28.6%
<b>Did you start this business on your own?</b> Yes No, inherited No, acquired	5.904*	66.7% 17.8% 15.6%	<b>76.4%</b> 5.5% 18.2%
<b>What was the main source of start-up capital for this business?</b> Loan From Family/ Friends Gift From Family/ Friends Inherited Capital Sale Of Assets Owned Own Savings Bank Microlending Facility NGO Government Project Other	13.058	14.9% 10.6% 4.3% 0.0% 17.0% 17.0% <b>31.9%</b> 0.0% 2.1% 2.2%	11.6% 7.1% 2.7% 0.9% 5.4% 12.5% <b>50.9%</b> 4.5% 0.9% 3.5%
<b>What was the main source of funding to acquire this business?</b> Loan from family/ friends Gift From Family/ Friends Microlending Facility Bank Own Savings Inherited Capital NGO Government Project Other	18.590*	21.2% 15.2% 24.2% 9.1% 21.2% 9.1% 0% 0% 0%	<b>33.3%</b> 9.3% <b>29.6%</b> 3.6% 5.6% 9.3% 1.9% 3.7% 3.7%
<b>Have you substantially expanded this business after you inherited/ acquired it?</b> Yes	12.795***	39.4%	<b>75.7%</b>
<b>Are you the main decision-maker in this business?</b> Yes Yes, together with other owners No	2.932	7 7.8% 22.2% 0.0%	<b>87.0%</b> 12.0% 1.0%

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%.

## | Physical, human and capital resources

Compared to the less successful agripreneurs, the successful ones had the same average of total cultivated land (14.9 ha against 13.9 ha) and total owned cultivated land (11.2 ha against 10.6 ha). However, the successful agripreneurs were more oriented towards renting land for cultivation than the less successful ones (13.3 ha against 8.4 ha).

In terms of employment generated by the businesses, the less successful agripreneurs had slightly more persons working in their businesses than the successful ones.



Table 26: Land, employment generated by the business, total

	$\chi^2$ test	Less successful	Successful
Average			
Total land cultivation (Ha)	27.629	13.9	14.91
Total owned land cultivation (Ha)	19.559	10.66	11.23
Total rented land cultivation (Ha)	7.814	8.36	13.34
Persons working in the business	17.504	4.7	4
Paid workers	9.927	4.5	4.2
Unpaid workers	2.411	2.2	2.0
Paid workers are members of your family	1.979	1.3	1.7
Unpaid workers are members of your family	3.641	2.3	1.8

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%.

The findings of this study revealed that in Tunisia there is an effect of gross revenue on the success of agripreneurs. Indeed, the successful ones had a higher value of the main products sold without processing than the less successful ones. In addition, the average gross revenues of the successful agripreneurs tripled those of the less successful ones.

Table 27: Value of the main products sold without processing (First farming activity)

	$\chi^2$ test	Less successful	Successful
Average			
Vegetables	27.629	12,400.0	25,000.0
cereals	19.559	9,576.57	19,250.63
Arboriculture	7.814	8,025.0	76,560.0
Breeding (sheep, cattle)		17,444.4	15,372.9
Beekeeping		7,637.8	8,780.0
Milk production		10,000.0	24,546.0
Poultry farming		34,760.0	48,678.5
Minimum gross sale/ revenue (per month)	69.946***	563.9	1,722.5
Average gross sale/ revenue (per month)	89.756***	1,070.0	3,020.3
Maximum gross sale/ revenue (per month)	96.306***	1,666.1	4,511.0

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%.

## | Technological absorptive capacity

An innovative entrepreneurial approach refers to an entrepreneur’s ability to open up to new ideas and to new ways of doing things (Verhees and Meulenbergh, 2004). Gellynck et al. (2015) undertook a study that showed positive and significant relationship between business success and the level of technological absorptive capacity. They affirmed that in the long run, based on longitudinal observations, the level of technological absorptive capacity had positive and significant relationship with business success. This study showed that the success of agripreneurs had a significant relationship with automation use and ICT use in their businesses (59.5% and

30.6%, respectively for successful agripreneurs against 12.8% and 4.3% for less agripreneurs) and also with the introduction of any innovative product or service in their establishment over the last 12 months (23.2% for successful agripreneurs against 2.1% for less successful).

Table 28: Business Equipment/innovation

	$\chi^2$ test	Less successful	Successful
Power-driven machinery uses in the business Yes	1.540	55.3%	65.8%
Automation uses in the business Yes	29.024***	12.8%	59.5%
ICT uses in the business Yes	13.056***	4.3%	30.6%
Introduction of any innovative product or service in this establishment over the last 12 months Yes	1.199	2.1%	6.3%
Introduction or significantly change of the marketing strategies over the last 12 months Yes	10.442***	2.1%	23.2%
Thinking about innovation, which of the following is the most important source of information or ideas for any innovation activity for this establishment? <i>In-house R&amp;D and personal</i> <i>Knowledge from parent or another firm</i> <i>Consultancy firms</i> <i>Professional journals and trade publications</i> <i>Products or services available in the market</i> <i>Government ministries or programs</i> <i>Universities and research institutes</i> <i>Internet</i> <i>Customer feedback</i>	19.991**	4.5% 22.7% <b>38.6%</b> 4.5% 0.0% 11.4% 2.3% 11.4% 0.0%	1.9% 6.6% <b>35.8%</b> 4.7% 0.9% 5.7% 0.0% <b>33.0%</b> 4.7%
Which time frame of production targets do you set for this business? <i>Main focus was on short-term (a year or less than a year)</i> <i>Main focus was on long-term (more than a year)</i> <i>Combination of short-term and long-term</i> <i>No production targets</i>	12.011***	18.6%  9.3% <b>58.1%</b> 14.0%	14.5%  22.7% <b>60.9%</b> 1.8%
you <i>Yedfsf</i>	6.024	56.8% 31.8% 11.4% 0.0%	

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%.

# | Social capacity

Entrepreneurs require information, capital, skills, and labor to start business activities. Although they try to manage many of these resources on their own, the shortfalls are fulfilled by accessing their contacts (Aldrich and Zimmer, 1986; Aldrich et al, 1991; Cooper et al, 1995). When the entrepreneurs' social contacts contribute to their entrepreneurial goals, these social contacts are their social capital (Burt, 1992). Several studies indicate that family plays an important role in the mobilization of financial resources during the initial stage (Aldrich and Waldinger, 1990; Steier and Greenwood, 2000) and during survival times (Holtz-Eakin et al., 1994).

This study showed that the successful agripreneurs had a wider network of people who could help them in their businesses than the less successful ones. The role of families (parents) become even more important in career intent especially in taking up entrepreneurship as a career option. The career choice preference of an individual is at its highest point at student life and as such the influence of others, especially family and society, can result in determining entrepreneurial intention (Gelderen et al, 2008; Leffel and Darling, 2009). In this direction, 67% of the successful agripreneurs lived in the same household with their parents against 40.4% for the less successful ones. In addition, the majority of the successful agripreneurs had received the support of their parents to become agripreneurs (68.2%) and to choose an occupation (84.5%). The personal network helped almost 71% of the successful agripreneurs to gain new clients.

Table 29: Social capital

	$\chi^2$ test	Less successful	Successful
<b>About how many close people do you have these days? (People you feel at ease with)</b> <i>Average (total)</i> <i>Average (family members)</i>		3.11 1.74	3.67 2.21
<b>If you suddenly needed a small amount of money how many people could you turn and willing to provide this money?</b> <i>Average (total)</i> <i>Average (family members)</i>		2.34 1.59	2.32 1.96
<b>Do you get advice on running your business from your close relatives and friends?</b> <i>Yes, often</i> <i>Yes, rarely</i> <i>No</i>	2.775	76.6% 19.1% 4.3%	65.2% 23.2% 11.6%
<b>Do you live in the same household as your parents?</b> <i>Yes</i>	9.648***	40.4%	67.0%
<b>Have you inherited any wealth from your parents?</b> <i>Yes</i>	4.673**	41.3%	24.1%

	$\chi^2$ test	Less successful	Successful
<b>Did your parents want you to become an agripreneur?</b> Yes No Do not know	5.262*	60.9% 2.2% 37%	68.8% 9.2% 22.0%
<b>Have your parents ever proposed you for an occupation?</b> Yes	5.234**	68.2%	84.5%
<b>Do you belong to any of the business associations?</b> Yes	0.980	10.9%	17.1%
<b>Do members of your personal network help you gain access to new clients?</b> Yes	0.171	68.1%	71.4%

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%.

## | Constraints/barriers, supporting policies

Researchers who study barriers in business often propose measures that policymakers, business advisors, and business managers can take. Descriptions of barriers preface their proposals (Barth, 2004; Pellegrino, 2018; Sandberg and Aarikka-Stenroos, 2014). Some examples of internal barriers are the lack of equipment, strategic planning, skills and adequate financing. All these may also be labelled resources in accordance with the above description. Some examples of external barriers are global competition, burdensome regulations, and market and environmental changes. Barriers are in many cases related to the context, market structure and maturity of the industry (Pellegrino 2018). Especially the agricultural sector has experienced many challenges due to increased global competition and environmental challenges.

Engaging youth in developing countries’ agriculture is seen as an important strategy toward effective, efficient and sustainable food system transformation. Yet the policy, institutional, technological, and capability barriers and ways to overcome them for successful participation of youth in agriculture are still present.

This study showed that the “supply of raw materials” was a significant constraint affecting the success of agripreneurs when they started their businesses. The main barriers declared by the successful agripreneurs were financial difficulties (66.1%), price fluctuations (46.4%), supply of raw materials (37.5%) and competition (29.5%). However, “the lack of land” and the “too much control taxes” were the significant constraints affecting the success of agripreneurs when they run their businesses. Furthermore, the main constraints stated by both groups (less successful and successful agripreneurs) were price fluctuations (68.1% against 60.7%, respectively), supply of raw materials (42.6% against 41.1%, respectively) and sale of products (40.4% against 38.4%, respectively).

Table 30: Constraints/barriers

	$\chi^2$ test	Less successful	Successful
<b>Constraints/barriers confronted when you started your business</b>			
Supply of raw materials	2.960**	23.4%	37.5%
Sale of products/ lack of customers	0.001	6.4%	6.2%
Sale of products/ too much competition	0.002	29.8%	29.5%
Financial difficulties	0.277	61.7%	66.1%
Lack of land	1.036	4.3%	8.9%
Lack of space adapted premises	0.010	8.5%	8.0%
Lack of machines or equipment	0.618	21.3%	16.1%
Organization management difficulty	0.405	2.1%	0.9%
Too much control taxes	0.422	0%	0.9%
Prices fluctuation	0.002	46.8%	<b>46.4%</b>
<b>Constraints/barriers confronted when you are running your business</b>			
Supply of raw materials	0.030	42.6%	41.1%
Sale of products/ lack of customers	1.015	8.5%	4.5%
Sale of products/ too much competition	0.462	40.4%	38.4%
Financial difficulties	0.926	31.9%	37.5%
Lack of land	4.959**	0.0%	<b>9.8%</b>
Lack of space adapted premises	0.030	6.4%	7.1%
Lack of machines or equipment	0.998	6.4%	11.6%
Organization management difficulty	0.406	2.1%	0.9%
Too much control taxes	4.827**	4.3%	0.0%
Prices fluctuation	0.771	68.1%	60.7%

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%.

In terms of supporting policies, only 39.9% of the successful agripreneurs had ever applied to receive support against 46.2% for the less successful ones. Access to loan was the significant support received from the government affecting the success of agripreneurs. The support received by both less successful and successful agripreneurs remained low (fluctuation between 0.9% for the access to large business orders and 25.9% for the access to information on the markets). To overcome the present constraints, access to information on markets was the major support wished to be received for 51.1% of less successful agripreneurs and 58.8% of successful ones. Moreover, most of agripreneurs declared that the target projects/programs to support agripreneurs in their businesses were available in Tunisia but not accessible.

Table 31: Supporting policies

	$\chi^2$ test	Less successful	Successful
<b>Have you ever applied to receive support?</b>			
Yes	0.147	46.2%	39.3%

	$\chi^2$ test	Less successful	Successful
<b>Support received from the government, international organization or an NGO</b>			
Technical trainings	0.000	19.1%	19.0%
Training in organizational and financial management	1.390	12.8%	10.7%
Assistance in obtaining supplies	0.089	8.5%	7.1%
Access to modern machine	0.622	6.4%	3.6%
Access to loans	7.138***	4.3%	21.4%
Access to land	0.406	2.1%	1%
Access to information on the markets	0.109	23.4%	25.9%
Access to large business orders	0.422	0.0%	0.9%
Litigation with competitors	2.141	10.6%	4.5%
<b>To overcome your present constraints, do you wish to receive help in the following areas?</b>			
Technical trainings	0.381	21.3%	25.9%
Training in organizational and financial management	0.915	23.4%	28.6%
Assistance in obtaining supplies	2.842	21.3%	25.9%
Access to modern machine	0.901	14.9%	21.4%
Access to loans	0.465	19.1%	24.1%
Access to land	0.011	12.8%	13.4%
Access to information on the markets	0.007	51.1%	58.8%
Access to large business orders	1.015	8.5%	4.5%
Litigation with competitors	2.585	10.6%	21.4%
<b>Are such projects/ programs available in your country?</b>	0.260		
Yes		71.8%	75.9%

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%.

## | Perceptions and aspirations

Youth aspirations in business were not very different between less successful and successful agripreneurs. The main reasons to choose business activities were “family tradition” for both less successful and successful agripreneurs followed by “easy to start/low capital requirements” for the less successful ones and “to be independent” for the successful ones. Almost 56% of the agripreneurs stated that they were in the business because better jobs were not available and 41% indicated that their businesses were what they wanted to do in life. The majority of agripreneurs wanted to continue their businesses in the future and thought that the food and agriculture sector was an attractive sector to work in. Concerning their business activity, the successful agripreneurs were likely more satisfied with what they are engaged in than the less successful ones.

Table 32: Perceptions and aspirations

	$\chi^2$ test	Less successful	Successful
<b>What is the main reason for choosing this business activity?</b> <i>Family tradition</i> <i>It is the profession I know</i> <i>Easy to start/ low capital requirements</i> <i>It gives better income/ higher profits than other activities/ sectors</i> <i>More stable returns than other activities/ sectors</i> <i>To be independent</i> <i>Other</i>	10.845*	<b>30.4%</b> 8.7% <b>23.9%</b> 2.2% 13.0% <b>15.2%</b> 6.5%	26.4% <b>16.4%</b> 17.3% 10.0% 3.6% <b>22.7%</b> 3.6%
<b>Which of the following statements best corresponds to your situation?</b> <i>I am in this business because this is what I wanted to do in life</i> <i>I am in this business because better jobs were not available</i> <i>I am in this business because my parents wanted me to do so</i>	1.680	40.9% 55.5% 3.5%	41.3% 56.1% 2.6%
<b>Are you looking for a different job/ business opportunity?</b> <i>Yes</i>	0.062	17.4%	19.1%
<b>When you think about the future, do you want to continue your business?</b> <i>Yes</i>	0.034	97.8%	97.3%
<b>Do you think food and agriculture sector is an attractive sector to work in?</b> <i>Yes</i>	1.877	80.0%	88.4%
<b>Overall, how satisfied are you with what you do now?</b> <i>Very satisfied</i> <i>Somewhat satisfied</i> <i>Not satisfied</i> <i>Not satisfied at all</i>	38.002	25.5% 36.2% 36.2% 2.1%	<b>41.1%</b> 56.2% 1.8% 0.9%

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%.

# Lessons Learnt and the Implications on Youth Engagement in Agriculture

In this section we compiled selected results from the Tunisian case study in the context of the strategic interventions.

- **Socio-economic determinants of business success for agripreneurs**

This study showed that the educational level, gender and income of agripreneurs are the most important determinants which significantly affected business success. Youth agripreneurs' engagement in agriculture could be enhanced through professional agricultural education. However, current knowledge gaps can be narrowed by adding extension curricula and farmer outreach activities to research programs. Also, policies and programs implementers need to focus on gender at the same time as youth.

- **Capacity building factors for business success for agripreneurs**

The study findings on the capacity building factors specifically, formal and informal trainings and apprenticeship have significant relationship with agripreneurs' success. The Tunisian government should strengthen its collaboration with local and national universities, the private sector, NGOs and development organizations to open additional agricultural centers which provide free or subsidized trainings.

- **Technology absorption capacity as a main driver for business success for agripreneurs**

The results show that the success of agripreneurs was correlated with the high technology absorption capacity of youth. Hence, government efforts should be made to improve local penetration and to provide ICT services at low cost. There should also be focus on easing regulatory constraints such as high logistics fees and multiple taxes which impact small agripreneurs operating in rural areas.

- **Lack of finance as a major constraint for business success for agripreneurs**

In Tunisia, it is evident that there is an urgent need to create strategies to enhance youth agripreneurs access to credit and insurance mechanisms. In this direction, the legal texts, particularly the Investment Law, should recognize the specificities of the agricultural sector and give young agripreneurs more grants and incentives. In the context of access to credit, design and implementation concerns should be addressed by frequent assessments of loans that have been granted. To improve credit access to rural entrepreneurs, efforts should be made to involve more local financial institutions. Fiedler (2021) cited five key recommendations to maximize positive impacts of investment incentives on the youth agripreneurs : (i) develop clear target criteria that determine the conditions for access to incentive schemes; (ii) provide packages of incentives rather than stand-alone or isolated support interventions; (iii) ensure that the overall policy and legal framework empowers, rather than impedes young agri-entrepreneurs' investments; (iv) develop a youth-sensitive and context-specific communication strategy; and (v) engage youth in policy making processes.



- **Lack of youth engagement in policy making as a major constraint to business success for agripreneurs**

Less than half of the agripreneurs had ever applied and received support. There is a lack of youth engagement in policy making. In addition, youth organizations are weak or non-existent in the Tunisian case. Government should find an innovative approach to include youth agripreneurs in decision-making. Fiedler (2021) stated that the governments can make an important contribution to empowering youth to engage in policy making processes by (i) supporting capacity development initiatives targeted at youth organizations; (ii) formalizing policy dialogue through multi-stakeholder platforms; and (iii) actively communicating the existence, nature and objectives of such platforms.

- **Lack of policies support as a major constraint for business success of agripreneurs**

The study findings show the lack of the support received by youth agripreneurs from the government, international organization or NGOs. Government policies and government-sponsored programs are often inadequate to meet the needs of young entrepreneurs. It is essential for policy makers to understand the real needs of youth agripreneurs. Programs offering training to agripreneurs should ensure that they offer or link beneficiaries to services needed to help their businesses develop. Such services may include foundational training on topics such as financial literacy, coaching, access to financial services, access to information on the markets, access to innovations, etc. In addition, the government and development partners should set up functioning frameworks for greater coordination, partnership and synergy among various actors.

- **Improve market access as a main driver for business success for agripreneurs**

This study shows that most of the agripreneurs wished to receive help on access to the markets. The government should facilitate the development of the agricultural value chains and improve their access to youth agripreneurs. Potential agripreneurs and practicing agripreneurs should ensure that they have access to a ready market for their products. This will safeguard their profit margins and thus augment their access to funding.

- **Social capital as a main driver for business success for agripreneurs**

The study findings show the importance of family in career intent of agripreneurs especially in taking up entrepreneurship as a career option and in the mobilization of financial resources during the initial stage. However, only 17% of successful agripreneurs were members of business associations. Specific incentives should be given to encourage agripreneurs to join or create associations.

- **Creation of skill development opportunities as a main driver for business success for agripreneurs**

The findings show that almost 55% of agripreneurs were in agribusiness because better jobs were not available. The government should partner with local and national universities, the private sector, NGOs, development organizations to strengthen the concept of agricultural entrepreneurship in order to attract young individuals to consider agriculture and agripreneurial activities as possible employment pathways. In this sense, the emergence of a new generation of highly educated

young agripreneurs without agricultural training demonstrates the importance of coaching to support the project holders.

# Concluding Remarks

This research report identifies policy, institutional, technological, and capability drivers of youth engagement in agriculture with a view to develop specific learned lessons. The study findings may be useful for identifying context-specific challenges and pathways to successful Tunisian youth engagement in agriculture.

Although the agricultural sector is important in the national economy, it is not very attractive to young people. This lack of attractiveness is reflected by the ageing of the population of farmers and by the lack of availability of labor, while the rural area remains characterized by an unemployment rate higher than the national average. This situation is the consequence of a low level of investment and innovation in production, primary processing and services related to agriculture. In addition, this is due also to a lack of development and diversification of the sector in terms of value added for the local agricultural products.

Despite a legislative and regulatory framework that is constantly changing (the last investment law, which offers numerous advantages to agricultural investment was enacted in April 2017), investment in the agricultural sector, particularly in the rural regions, remains below expectations, particularly as regards to young people, to whom access to sources of investment remains low or even insignificant.

To enhance youth employment in agriculture, an innovative and participatory approach must be adopted by all stakeholders in the Tunisian agriculture and agri-food sector based on the following key items:

- The strengthening of the competitiveness and attractiveness of the Agri-value chains could be based on territorial or regional advantage.
- Coordination between the different public and private actors which should allow a coherent package of incentives and services, avoiding duplication of efforts,
- Attracting young people to a sector as strategic as agriculture is a real opportunity that requires an adapted, innovative communication, and at the level of the expectations of young people. Communication strategies must be tailored to the context, habits and preferences of young agripreneurs,
- The use of ICT in the agricultural sector must be facilitated and strengthened by measures to raise awareness about the importance of these tools,
- Adopt a gender approach to improve girl-youths' engagement in agriculture,
- Encourage networking among young agripreneurs to facilitate their access to incentives, financing, markets and information,
- Encourage the creation of clusters at the level of territories and value chains,
- Implement basic entrepreneurship training in educational curricula,
- Establishment of a platform for exchange and monitoring of projects and recipients of

incentives,

- To accompany agripreneurs in the adoption of the needed technology from the production stage to the sale of the products,
- To adopt a territorial approach to guiding youth investment.

While we have learnt about the drivers of youth engagement in Tunisian agriculture through this case study, there is still much to be learnt and the need for further research:

- There is also a need to investigate the determinants of an entrepreneur's performance based on other factors (increased ability to employ others, technological absorptive capacity, etc.),
- The information from this study will broaden our knowledge and understanding related to the internal and external environmental factors which influence the success of the youth agripreneurs. Future studies need to be done using a more rigorous methodology to confirm our findings (econometric methods) and a larger sample of young agripreneurs.



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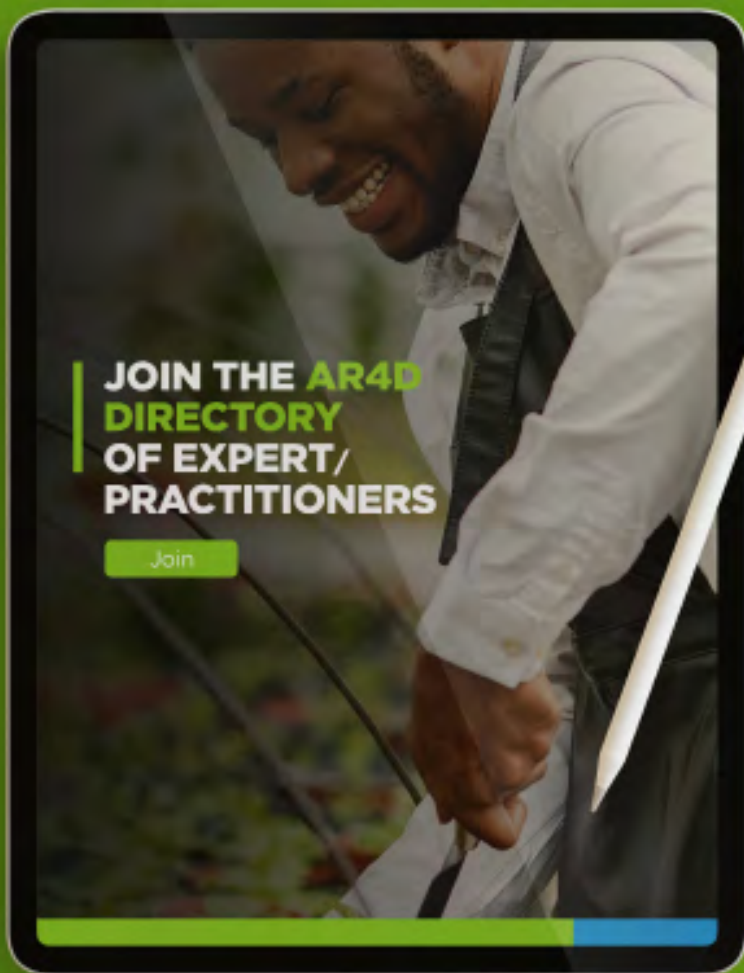
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