

Challenges and Potential of Future Agricultural Development in Jordan: Role of Education and Entrepreneurship

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Doi:10.5901/ajis.2016.v5n3s1p11

Abstract

The paper examines the status of agriculture development in Jordan, current challenges and potential of future development. Aim of the study is to find out the role of education and entrepreneurship in fostering agriculture development in Jordan through: introducing new technologies into the sector; applying modern and global marketing perspective, and youth entrepreneurship empowerment. This study is based on theoretical approach based on secondary research, and primary research includes two surveys were carried out at this study. Like various studies this study confirmed that water scarcity is the main challenge facing agriculture development in Jordan, and the sector is less developed than other sectors in the country. Nevertheless, this study added that youth entrepreneurship low participation in the sector is not only due to financial shortage and youth insufficient knowledge, but it's due to their low attitude to working in agriculture too. Therefore, it is suggested that there is a need for significant paradigm shift in the education system to meet the needs of the market. Also utilizing the role of R&D to enhance the management of water resources and emphasize desalination and wastewater reuse, and change youth's attitude to working in agriculture. Add to the aforementioned that there is a need to provide more financial and technical support to attract and help youth entrepreneurs to invest in the sector. Accordingly, an opportunity for tackling the current challenges and fostering future development will emerge.

Keywords: Agriculture development, education, entrepreneurship, water scarcity, microfinance

1. Introduction

Due to the political, economic and social crisis in Middle East countries in the last few decades; it has been increasingly recognized that agriculture development has a crucial role in creating sustainable development due to its economic, social and environmental returns. During the past three decades, agriculture has started to play a major role in the protection of the environment and tackling the problem of climate change. It has the major role in protection of biodiversity and ensuring an environmental balance that would secure sustainable use of resources and preserve them for future generations (UN Jordan, 2010). The agricultural sector in its economic, social and environmental dimensions is a fundamental sector of the national economy for each country in the world. Prices of agricultural goods, such as cereal and milk, are hitting record highs on international markets. Food security and food safety are no longer guaranteed. Accordingly, it's believed that fostering an entrepreneurial programs and activities in agriculture; will maximize individual and collective economic and social success on a national and global scale.

Education always has been the basic pillar of introducing technical innovation and new technologies into other sectors. Quality of Education concept should be introduced to participate in developing the agricultural sector through: introducing new technologies and technical innovation; adding values to agricultural products and improving engineering and production processes; preparing youths who are well trained and skilled to apply these methods to flourish the sector. Furthermore, youth workforces and education system with high quality are more able to introduce new marketing strategies and developing new markets to consume the agricultural products; as well as make the investment in this vital sector more profitable and sustainable.

Entrepreneurship is a key driver of the economy. Wealth and a high majority of jobs are created by small businesses started by entrepreneurially minded individuals (Entre-ed, 2012). The agricultural sector in most of the

developing countries is fully of aged farmers whom should be replaced by new innovative, enthusiastic and youth entrepreneurs. Entrepreneurship and innovation programs are crucial to train youth who are innovative and self-reliant, in order to make them employers of labor rather than adding them to the statistics of unemployed graduates. Therefore, GOJ (Government of Jordan) and International programs should ease access to finance for entrepreneurs in many forms, such as micro-leasing and group-based models to help them invest and participate in the sector. Involving youth entrepreneurs and improving used-technologies in the sector is making it increasingly viable for microfinance and entrepreneurship programs service providers to effectively reach people in rural areas. This is done by a better understanding of potential customers and their technical and financial needs to make significant improvements (Christen, Robert Peck, and Jamie Anderson, 2013).

Education, entrepreneurship and microfinance are important factors in developing the agricultural sector in Jordan. Youth entrepreneurs are more able to introduce new technologies and technical innovation into their societies. R&D, new technologies and youth potentials can tackle the current challenges such as water scarcity; as well as develop new markets and globally-standard agriculture products. That's why the focus of the study is about the major challenge facing agriculture development in Jordan which is water scarcity, and the role of education, entrepreneurship and microfinance in developing the sector as potential aspects of future development. This paper is structured as follows: background, methods and materials, results and findings, discussion and conclusion.

2. Background

Jordan has limited natural resources and is highly dependent on imports, particularly oil and foodstuffs. The role of agriculture is still weak in fostering real economic development and growth in the country. Jordan's natural resources for agricultural production are very limited. Only about 5% of the land mass is considered arable, and Jordan is among the world's most water-deficit countries (IFAD, 2001). Due to many reasons such as rush of urbanization; limited natural resources such as water and arable lands; difficulties in accessing financial services; the boom of new technology and services investments, and little contribution of youth entrepreneurship and technical innovation to the sector. The agricultural sector is less developed than other sectors in the country like: services, technology, health, etc. It has experienced high diminishing in its absolute value of the national economy and contribution to the GDP. The agriculture contribution to the GDP in 2013 was 3.2% (World Bank Database, 2013).

Jordan is a food deficit country with almost eighty five percent of its food imported (FAO, 2014). Jordan imports around 87 percent of its food requirements (The Jordan Times, 2013). The sector provides livelihoods for about 10% of the population and employs about 3.2% of the labor force. Livestock is estimated to contribute to one half of the total agricultural GDP (World Bank Database, 2013). In spite of the sector's low contribution to the GDP and highly consuming of water compared with other sectors (See Figures 2.1 and 2.2). It is still in its economical, social and environmental dimensions a fundamental sector of the national economy. The sector is the base of integrated rural development, a source of income and employment for rural and Badia (semi-desert) people and a generator of activities in the other economical sub-sectors, especially the industrial and services ones. It also plays a central role in food security and trade's balance improvement (FAO, 2006). Following sector reforms, agriculture in Jordan is now virtually free of all controls and restrictions, and Jordan has joined the World Trade Organization in 2000.

Jordan's economy is among the smallest in the Middle East with insufficient supplies of water, oil, and other natural resources, which underlying the government's heavy reliance on foreign assistance (Jordan Economy Profile, 2016). Most of the economic reforms activities which were carried out in the past weren't focused on the agricultural sector in Jordan, but they were more focused on other sectors like: services, technology and health. Therefore, the agricultural sector still less developed than other sectors and its contribution to GDP is little. In general, the agricultural sector is subjected to strong competition from other sectors and receives few national and international investments in comparison with other economic activities (FAO, 2009). Youth participation and entrepreneurship programs in the sector still scarce and have insignificant role in developing the sector. Youth entrepreneurship and business development programs in Jordan are more focused on technology and services sectors disregarding the importance of the agricultural sector. The sector has a crucial role in fostering the sustainable development and economic growth; add to that its potential to tackle the massive problem of unemployment. Rate of youth unemployment in Jordan is one of the highest in the world. Unemployment rate reached 14.6 per cent in the first quarter of 2016, which is the highest in eight years (The Jordan Times, 2016a).

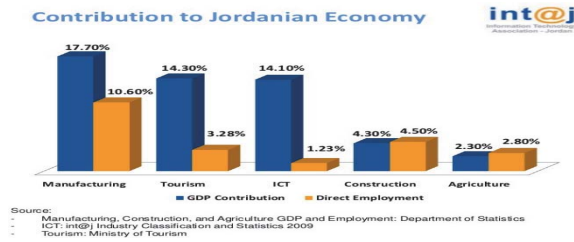


Figure 2.1 Employment in agriculture & its contribution to GDP in 2009.

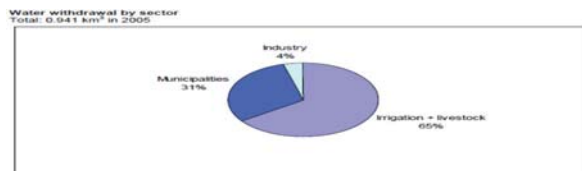


Figure 2.2 Water uses in Jordan 2005. Source: FAO-Jordan, Water Report 34, 2009, Water use.

2.1 Challenges

Major challenges facing agriculture development in Jordan are: reduced availability of freshwater for irrigation; the widening gap between food exports and food imports; the degradation of and misuse of natural resources, and the loss of agricultural land to urbanization (FAO, 2011). Marketing and production challenges also exist such as: adding values to agricultural products and improving production; pricing policies and marketing of agriculture products undermined investments in the agricultural sector, and fostered reluctance of participation of small farmers and youth entrepreneurs. For example in February 2016, farmers in Jordan valley destroyed tomato crops and protest mounting losses due to low prices. Prices were less than the cost of sending their products to the markets (The Jordan Times, 2016b). Moreover this is not the first time they do that, and many previous years experienced the same phenomenon as well like in 2012, 2007 and 2005.

Shortage of primary production credit was one of the major causes of declining the participation of small farmers and youth entrepreneurs in the sector. The potential of microfinance in Jordan and many developing countries to foster agriculture development still not well utilized, like what happened in many developed countries, France for example (Solène Morvant-Roux, 2008). The mismatch between the output of education and vocational training with market demands is the main reason behind highly youth unemployment and low participation in the agricultural sector. Moreover youths in the country still consider agricultural jobs as low skilled jobs, or jobs which don't require tertiary qualifications. Also there is a tendency in the sector to rely on foreign labor instead of employing locals (ILO-Jordan, 2014). However, water scarcity remains the main challenge facing agriculture development in the country, and using the limited available water resources for agricultural purposes is not the first priority to Jordan. "Our Water situation forms a strategic challenge that cannot be ignored. We have to balance between drinking water needs and industrial and irrigation water requirements. Drinking water remains the most essential and the highest priority issue", H.M. King Abdullah II, 1999 (Water for Life, Jordan's Water Strategy, 2008-2022).

2.2 Potential of Future Development

Agriculture development has a multidimensional impact on economic, social and environmental aspects. Accordingly, agricultural development nowadays is an international priority not only a national one. Over the past 10 years, Jordan has succeeded implementing structural reforms in education, health, privatization and liberalization (World Bank, 2016). Therefore, it's possible they carry out structural reforms in agriculture too. Agricultural development always has been the main tool in fostering rural development, and helping poor rural population generating their income and creating new job opportunities. Jordan is a "young" country, with its recent statistics revealing that over 60 percent of its population under 30, (World Bank Database, 2013). Therefore, Jordan youths are a valued asset to the country and they should be utilized,

educated and involved in decision making to foster development in all sectors of the country. The World Bank has ranked Jordan as the best education system among Arab states in 2008, (Al Jazeera Arabic, 2012). In the absence of oil, gas and other natural resources education with high quality is a must. Quality and diversity of education to meet the needs of the market is crucial to achieve sustainable development, and develop an agricultural market and products meet the global standards.

Educated and well trained youth workforces are more qualified, motivated and capable of introducing new technologies into their communities and flourishing agriculture. New technologies and technical innovation can enhance the quantity and quality of agricultural yields and output. New technologies are crucial to improving the sustainable use of natural resources and reducing consumer food prices. Also they connect rural producers to the market, and stimulating the accumulation of physical and human capital for rural households and individuals. Nevertheless, well trained youth entrepreneurs and investment in R&D have a significant role in using new technologies to emphasize desalination and wastewater reuse. Also growing agricultural products which need less water and have higher market values, and applying modern techniques in order to maximize production like: hydroponics and greenhouses.

International organizations are playing an important role in developing the sector; e.g. in 2015, IFAD launched the Rural Economic Growth and Employment Project (REGEP). The project aims to reduce rural poverty, vulnerability and inequality in Jordan by creating employment and income-generating opportunities for the rural poor, especially women and youth (IFAD-Jordan, 2015). R&D institutions, microfinance service providers and private sector in Jordan have a great potential to participate in the agricultural development process too and create new investments and opportunities. Finally, two very important questions still not arise from this context. Why entrepreneurship education and youth participation in starting up new business still insufficient? Second question is why youth entrepreneurs participation in the agricultural sector still scant?

3. Methods and Materials

Theoretical studies in social sciences are different ways of characterizing the social world; they generate and analyze data about that social world. They provide an overview of the situation in terms of numbers and statistics. They just describe the general frame of the situation, without talking about real reasons behind these numbers and statistics (University of Southern California). Qualitative methods are more focused on the real reasons behind these numbers and statistics. Therefore, it's important to apply an empirical focus group work methodology in order to find out the reasons behind agriculture dimensioning and low contribution to GDP in Jordan, as well as youth low participation in the sector. Also to better understanding the current challenges of agriculture development in Jordan, and potentials of future development. There is a need to have a deeper look at the situation and to talk to the stakeholders of the subject of the study (youths, experts in water and agriculture, experts in microfinance and entrepreneurship). In this way, you can find out youth's trend about working in agriculture and experts opinions about the situation. In this way only, you could confirm your hypothesis or the facts which are already exist.

This chapter consists of two surveys. The first one consist of 10 open questions (discussion points) covering all the fields of the study (water and agriculture, microfinance and entrepreneurship). It was carried out in two ways: online questionnaire, and face to face interviews. The survey was designed for experts in water, agriculture, microfinance and entrepreneurship to find out more about the main challenges facing agriculture development in Jordan; main challenges preventing youth entrepreneurs participating in launching up agricultural businesses. Furthermore it's to find out the potentials of future development through emphasizing the role of education and entrepreneurship in the sector. Around 40 experts were contacted to carry out this survey; only 5 of them answered and discussed the questions about their fields, and gave complete and useful responses to be analyzed. The rest whom responded gave some brief answers and suggestion to enhance the situation. The data analysis of this survey derived to cover three main points with regard to the objectives of the study, and will be described in the next chapter (Findings and Results). After carrying out this survey, it was obvious that another survey should be designed for youths to confirm some of the results of the first survey. Some of the experts also confirmed that another survey with youths or potential new comers to the sector should be carried out. Most of the experts revealed that youth low participation in the sector is also referred to their low willingness to working in agriculture and their limited knowledge and experience to have agricultural business; not only due to financial shortage.

Accordingly, the second survey was designed to include 14 questions and to address youth between 16 to 35 years old. The aim of this survey was to find out their opinions about entrepreneurship and agricultural development in the country; to assess their trends to working in agriculture and the challenges might face them to have agricultural businesses. The questionnaire was carried out randomly and in different places. Some of the samples were filled face to

face with students in schools and universities, the rest were carried out online and using social network platforms. Youths who responded to questionnaire were more than 140 people; however, only 87 results were valid to be analyzed and generalized. They were with different levels of education and qualification (elementary, secondary and tertiary school education), and some of them were illiterate. The data analysis of this survey derived to cover three main points with regard to the objectives of this research study, and will be described in the next chapter (Findings and Results).

4. Findings and Results

Youths were more responsiveness to the second survey than experts to the first one. They were more optimistic than experts about the future of agriculture development in the country. However, experts since they know more about the current situation and challenges, they were less optimistic and more realistic. They have revealed that agriculture development in Jordan is facing formidable challenges. Those challenges are water scarcity, finance shortage, weak production and marketing processes and limited areas of arable lands. They mostly talked about the serious problem of water scarcity and its influence on undermining the future of agriculture development in the country. They concluded, even though Jordan has achieved a good level of agriculture development in the last decade, but it's still insufficient and need more of government efforts. Private sector involvement, youth entrepreneur's empowerment and introduce new technologies to this vital sector are also urgent aspects to achieve the desired results.

4.1 First Survey

Water scarcity is the main reason which could undermine the future of agricultural development in the country. Experts of water and agriculture said that since the last two decades GOJ and policy makers have realized the importance of agriculture development. They agreed that food safety and security are necessary to Jordan's future with regard to the current crisis in the Middle East. However, they started to launch structural reforms in the agricultural sector, but the challenges are not easy and Jordan dependency on rainwater creates a high risk in using the limited water resources for agricultural activities. Based on that, this makes water scarcity the main and biggest challenge facing agriculture development in Jordan, and the main reason which could undermine its future too. They added that water use for agriculture accounts to more than two thirds of water used in the country, even though its contribution to the GDP is very low comparing with other sectors. Experts in water and agriculture said that good management of water resources and using efficient techniques for desalination and wastewater reuse would tackle the problem. Furthermore this would increase the amount of water allocated to agriculture, which could make a better opportunity for future development.

Commercialization microfinance approach to support entrepreneurs in agribusinesses is not really well defined and used. Commercialization microfinance approach in Jordan has proven it success, profitability and sustainability in many sectors so far, but using such approach in agriculture has a different situation. Agricultural businesses in the country are dependent on many factors and challenges. The matter is not only financial access, but water for irrigation, arable lands availability and weather impact as well. Therefore, who supported using this approach for agricultural businesses said that there is a good potential for applying this approach to agriculture too. They confirmed that GOJ and international organizations have realized the importance of agriculture development in Jordan, and started to give more support to small farmers and new entrepreneurs in the sector. They also provide financial and technical support to MFIs and organizations that provide support to stockholders in this vital sector. Experts in microfinance added that in order to make this approach more sustainable and profitable. There is a need that GOJ, international organizations and the private sector should collaborate all together to restructure the scattered programs, and to create new forms of financial support which meet the needs of newcomers into the agricultural sector. On the other hand, others who are not so optimistic about using this approach for agriculture had another point of view. They said that the challenges facing agriculture development represented by natural resources like water scarcity and limited areas of arable lands. Also the lack of legal framework for microfinance organizations makes this approach hard to apply, due to the high risk MFI will take in applying such approach. However, some of the experts in microfinance said that using micro-leasing approach would be a solution to reduce the risk on entrepreneurs and MFIs, as well as maximize the value of the loan. But again this needs a high collaboration between GOJ, IOs, private sector and MFIs to apply and operate such an approach.

Entrepreneurship programs in Jordan are scattered in general, but in agriculture they aren't sufficient and goal oriented at all. Experts of entrepreneurship revealed that finance shortage is not only the problem for entrepreneurs in agriculture, beside that there are some other insufficient factors as well. For example, lacking to directed entrepreneurship education in general and particularly in agriculture and poor quality of vocational training too. Insufficient

knowledge of new technologies, modern machineries and advanced techniques used in agriculture are among those reasons too. They added, a part of the natural challenges face agriculture projects in the country, there are some other issues should be taken into consideration. Like local and global marketing and sustainability of these projects in order to make it worthy financing such projects. Nevertheless, they confirmed that entrepreneurship programs in the country are more focused on services and technology than agriculture, due to many reasons. Those reasons could be that agriculture is more affected by natural challenges and require more cost, capital and space than other sectors; as well as youth entrepreneurs are less likely to start up agricultural businesses, and they have a tendency to invest in services and technology. Even though starting up new projects in agriculture is harder than in other sectors, but they confirmed that these projects are more likely to success and be profitable. Add to that, its social and environmental returns as well.

4.2 Second Survey

The agricultural sector in Jordan is less developed than other sectors in the country like: technology, services and health. The responses from the survey also confirmed our hypothesis above about level of agriculture development in Jordan. According to the valid cases of the survey; the majority of youths confirmed that level of development in the agricultural sector is less than in other sectors. Nevertheless, the majority of the rest said that they don't know, and only 4 out of 87 said that level of development in the agricultural sector in the country is higher than in other sectors. The problem is that agricultural jobs still considered as low skilled jobs. More than 80% of workers in the agricultural sector in Jordan are immigrants, mainly from Egypt and Syria. Youth in the country still prefer to work in service, technology and governmental jobs and they feel less valued to work in agriculture. Only 4 out of 41 youths who have a tertiary level of education showed a tendency to work in agriculture, and 7 out of 32 who have a secondary level of education gave the same response. The rest who were with an elementary level of education and illiterate have shown a good tendency to be workers in this vital sector (10 out of 14 don't see agricultural jobs as low skilled jobs). Moreover only 31 out of 87 youths who participated in the survey think that agricultural business profitable. The fact is that as much as youths' levels of education increased their tendency to work in agriculture decrease. Add to the aforementioned that there is a real mismatch between education outcomes and market needs in Jordan, particularly for jobs need vocational training and skills.

Youths' participation and entrepreneurship role in agricultural development in Jordan still are not significant. However, the majority of youths who participated in the survey were with a secondary level of education or higher, only 9 out of 87 youths have received entrepreneurship education. Moreover two of them only have received it in public institutions and the rest in private ones. Without receiving any financial and technical support only 11 out of 87 youths said that they prefer to start up new businesses rather than being employed. But only one of them said that he would invest in agriculture. After receiving financial and technical support or staying for more than two years without a job. Therefore the ratio of youth entrepreneurs has increased to be 39 out of 87, but ratio of youth entrepreneurs who would invest in agriculture slightly decreased to be (3 out of 39). Furthermore, MFIs and youth's entrepreneurship program in agribusinesses still unheard and unknown by a lot of youth. Only 5 out of 87 youths said that they know about some of the MFIs and entrepreneurship programs, which funding agricultural businesses and helping newcomers to the sector. The ratio of youth who would invest in agriculture increased to 18% in case they receive the right technical and financial support, but this is on condition that the fund is only to start up an agribusiness.

Youth participation in agricultural development is crucial to flourish the sector and tackle unemployment. Most of the youth who participated in the survey agreed that youth role to foster agriculture development in the country is urgent in order to achieve food safety and security. Even though the percent of youth who would invest in agriculture was low, but most of them agree on the role of agriculture in facing the current and future challenges. They said that it's crucial to dealing with the crisis in the area and reducing youth unemployment. Entrepreneurship education and vocational training is needed, unfortunately as mentioned before only 9 out of 87 youths have received this kind of education and training, mostly in private institutions. Finally, youths were more optimistic about the future of agriculture after involving them in the sector and emphasize the role of education and entrepreneurship empowerment. More than half of the youths said that involving youth in the sector and encouraging entrepreneurs to invest in agriculture will reduce more than one third of youth unemployment in the future. They added that introducing new technologies and technical innovation will help to have an advanced agricultural sector. Therefore this will create many job opportunities needed for the production processes, engineering and marketing.

5. Discussions

Water scarcity and limited areas of arable lands; weak production and marketing and limited access to finance are the biggest challenges facing agriculture development in the country. In this study, most of the relevant suggestions and recommendations regarding these challenges and the potential of agriculture development in the country were as follow. Reducing the level of unaccounted water since it is very high in Jordan due to the physical losses and administration losses which account to 40-45%. Accordingly, this area can improve the level of water saving and the increase in water quantity if the GOJ continues to work hard towards decreasing this ratio. Controlling private groundwater pumping since it's very high, and increasing the tariff on such pumping because the prices are too low. Also increase the water tariff of drinking water especially for the consumers, because the prices are very low too. The efficient and managed use of surface water from the surface reservoirs is urgent. The current capacity of those is 325 mcms though, but part from this amount is used for drinking water. Maximizing the use of treated wastewater and increase the surface dams wherever it is possible (Eng. Fayez Batayneh¹). There is a need to enhance the management of water resources as well (by one estimate, the amount of water lost nationwide every year would satisfy the basic needs of 2.6 million people), (Mercy Corps, 2015). Emphasizing desalination and wastewater reuse, and providing farmers with small desalination units to improve the quality of water for irrigation. Establishment of new policies to promote growing agricultural products needed less amount of water and have a high market value could also help. Government should setup new policies to organize urbanization process; tackle the impact of random urbanization on inhabitants and agriculture, and protect the area of agricultural lands from being merely divided. Improve post-harvest management and agro-processing technologies, this helps to reduce on and off-farm losses. Increasing added value, and enhance shelf-life of Jordanian agricultural products are important too. Moreover, identification of non-traditional agricultural markets; increased promotion of Jordanian niche products and development of appropriate value chains including modern storage, transportation and port handling facilities would for sure achieve better results (FAO, 2014).

R&D and entrepreneurship are two important factors for fostering agriculture development, here below there are some suggestions in this regard. There is a need to direct the educational system to address youth's low attitude to working in agriculture. It's also important to establish more technical and vocational schools and institutions to provide youth with the required knowledge and skills, and to qualify them for fostering advanced agricultural development. Promoting entrepreneurship education, and establishing training centers to provide this kind of education is decisive to training youth entrepreneurs in the agricultural sector and providing them with the required financial, technical and managerial skills to start-up their own businesses. Advanced and well developed agricultural sector need investment in higher education and R&D. Therefore, it's urgent to direct the higher education programs to meet the needs of the market, and to keep up with modern mechanization, advanced techniques and new technologies used in agriculture. Manufacturers of agricultural machinery should provide ongoing training workshops for equipment operators to enhance their capacities to function efficiently, and to use the available agricultural resources of the country efficiently and more productively. Add to the aforementioned that it's suggested to developing a new national strategy based on collaboration between GOJ and private sector aiming to enhance engineering and production processes. This will add values to agriculture products; enhance local and global marketing, and boost food safety and security policies.

Entrepreneurs' access to finance is crucial to flourish agriculture in Jordan, and tackle unemployment. Banks and most of the MFIs their main focus always are the economic returns generated of providing their services, they don't consider other returns of agricultural development on social, political and environmental aspects. Therefore, GOJ and international organizations should collaborate in order to help them restructuring their services provided to agricultural activities. Many ways could help such as providing more support and easy access to entrepreneurs, and reducing interest loans and maximizing their values. Guaranteeing sustainability of these services and projects, as well as meeting with their commercialization approach is important too. Jordan has a ranking of 107 on the World Bank ease of doing business index in 2010 (World Bank Database, 2013). The main difficulties faced by new entrepreneurs lie in obtaining access to appropriate credit forms. Helping entrepreneurs by taxing elimination and facilitate the procedure to start up new businesses. Also designing appropriate microfinance tools and establishing a sound legal and regulatory frame work in which they operate; are necessary precursors to foster an efficient financial sector equipped to serve rural clients and youth entrepreneurs. It's important to provide more awareness and knowledge about MFIs and other financial initiatives

¹ Eng. Fayez Al Batayneh, (2015). Secretary General for Water Authority of Jordan; Red-Dead Sea project's director. A direct interview with him.

which provide youth empowerment programs in agriculture through Ads, workshops and social networks. At the end, it's recommended establishing new financial services and updating the current ones to be more directed to help entrepreneurs in agriculture, by benefiting from successful experiences in funding agriculture projects in other countries having similar situations to Jordan, such as micro-leasing and group based models.

6. Conclusion

Agricultural development nowadays is an international priority not a national one due to its social, political and environmental returns not only the economic ones. The agricultural sector in Jordan has experienced high diminishing in its absolute value of the national economy and contribution to the GDP due to many reasons and challenges such as: rush of urbanization, water scarcity and limited areas of arable lands; difficulties in accessing financial services and insignificant participation of youth entrepreneurs. Moreover there is a development gap between the sector and other sectors in the country like: health, services and technology. Add to the aforementioned that Jordan is a food deficit country and imports around 87 percent of its food requirements. Jordan is hosting more than two million and half of refugees (The Jordan Times, 2016c); which put a high pressure on the country limited resources and food security situation.

Youth entrepreneurs still excluded from participation in agriculture development in the country. Youths in the country consider agriculture jobs as low skilled jobs, and they prefer to work for other sectors. Rate of youth unemployment in Jordan is one of the highest in the world, not only in the Middle East. On the other hand, youths in Jordan representing a large portion of the population, and they have proven their abilities and skills not only at national level, but at the global one as well. Therefore, youth entrepreneurs' participation in agricultural development is crucial to achieve the desired results and tackle unemployment. They are more able to introduce technical innovation and new technologies into this vital sector. Accordingly, the education system in Jordan should address youth's low attitude to working in agriculture. Youth entrepreneurship programs should be redirected to address the needs of entrepreneurs in agriculture, and provide them with the right technical and managerial skills in order to sustain their projects and make them more profitable. Government initiatives to ease accessing the proper financial services and enhance the limited knowledge and skills are urgent to have advanced and modern agriculture, as well as attract more entrepreneurs to start up new agribusinesses. GOJ should provide more help to small farmers and entrepreneurs, and promote some microfinance tools such as micro-leasing and group based models, which have proved its ability to foster agriculture and rural development in many countries such as Bolivia and Kenya.

However, people who participated in the survey confirmed many hypotheses of this study, but experts were less optimistic about the future of agriculture development in the country due to many reasons. They referred that youth entrepreneurs excluding from participation in agriculture development is not only due to lack of finance, beside that they lack the right knowledge, skills and passion to start up agribusinesses. Youth in the second survey also confirmed that they don't have a strong will to work in agriculture. Last but not least, before carrying out this research, the hypotheses were more optimistic about the future of agriculture development in the country. Especially after youth entrepreneur's intervention, their involvement in decision making and using the power of R&D to develop the sector. The fact is that the sector in Jordan is facing many formidable challenges, and the biggest one is water scarcity; which could really undermine the potential of future agricultural development in the country. However, agriculture development is a national priority, but many experts in the survey argued that agriculture uses more than 65 percent of the water in the country; meanwhile its contribution to GDP is very low compared with other sectors like services and tourism. According to Jordan's Water Strategy (2008-2022), drinking water remains the most essential and the highest priority issue. This could restrain any future programme for structural reforms in the sector. Finally agriculture development is decisive for the current and future challenges in the area, as well as experts confirmed that there is a room for fostering future development. This would be through youth participation, proper access to finance and utilizing the role of R&D and new technologies. Also by using advanced techniques and modern machineries, and enhancing the local and regional marketing strategies.

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