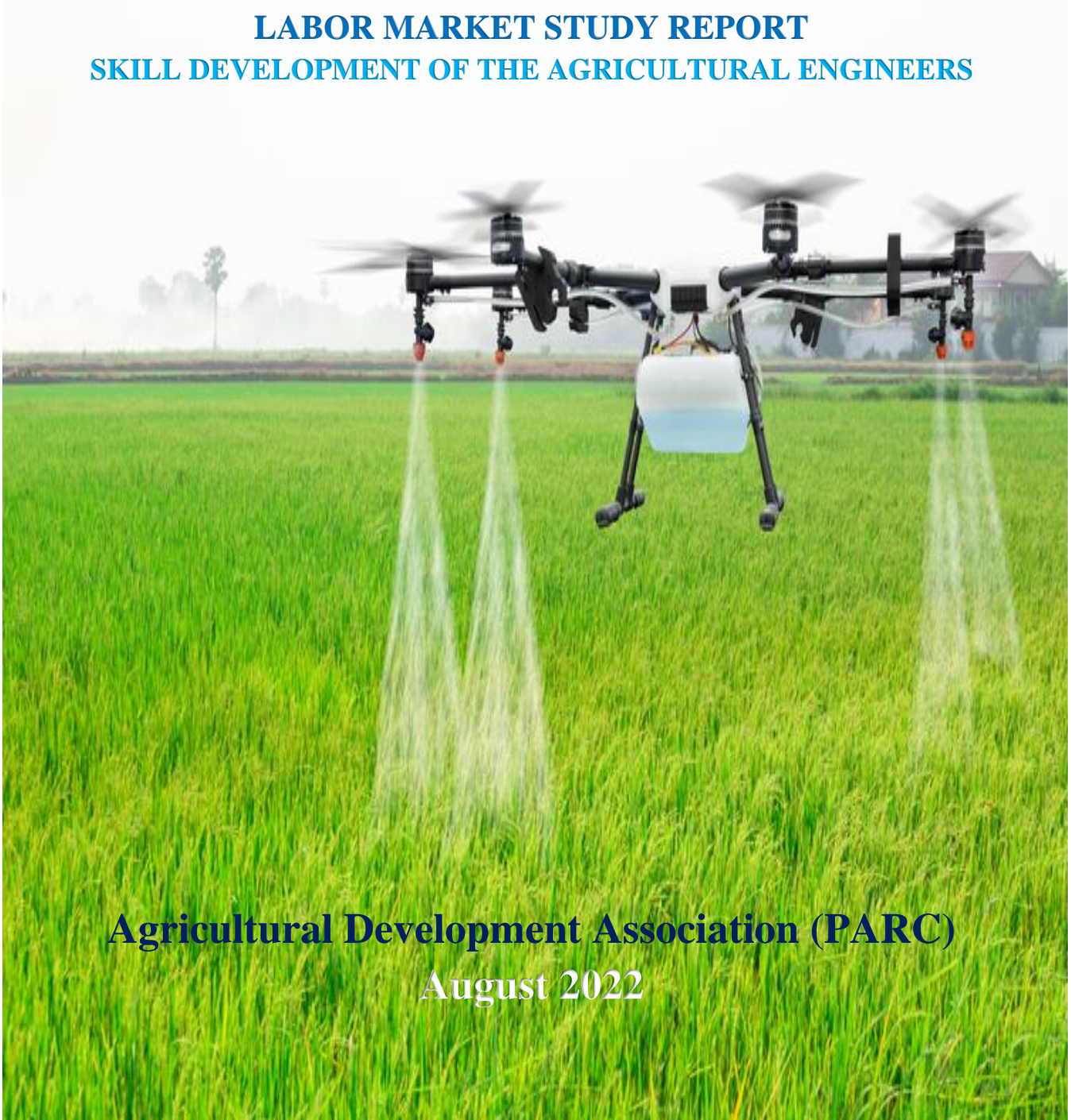




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LABOR MARKET STUDY REPORT **SKILL DEVELOPMENT OF THE AGRICULTURAL ENGINEERS**



Agricultural Development Association (PARC)

August 2022



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At the request of Agricultural Development Association (PARC), the following research team specialized in agricultural and development studies conducted and prepared a labor market study in the agricultural sector in the West Bank and Gaza Strip.

Within The Project:

“Enhancing sustainable livelihoods and inclusive economic opportunities in rural communities in the Opt. “ARDI II”.

Funded by:

The Ministry of Foreign Affairs of the Grand Dutch of
Luxembourg

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ACKNOWLEDGMENT

This research was funded by: The Ministry of Foreign Affairs of the Grand Duchy of Luxembourg within the Project: “Enhancing sustainable livelihoods and inclusive economic opportunities in rural communities in the Opt. “ARDI II” and implemented by Palestinian Agricultural Development (PARC). The research was conducted by agricultural and developmental experts: Dr. Abdel-Ghani Hamdan as team leader, Dr. Khalil Tubail as technical advisor and Sameer Khrisha as statistic and economic expert.

Special thanks to the Governmental and semi-governmental organization, for providing the database of institutions from which the survey sample was drawn, as well as for their valuable contributions to the process.

To the Agricultural Developmental Association (PARC) represented by general Director Monjed Abu Jesh for facilitation and support.

The enumerators and data entry, collecting field data team should also be thanked for their competence and professionalism in conducting the survey of all establishments covered in this research.

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LIST OF ACRONYMS:

ATVET: Agricultural Technical Education and Training

ARDI: Agriculture Resilience, Value chain Development and Innovation Program

CBOs: Community-Based Organizations

DRR: Disaster Risk Reduction

GAP: Good Agricultural Practices

GUPAP: Gaza Urban Agriculture Platform

GDP: Gross Domestic Product

FAO: Food and Agriculture Organization

ICLS: International Labour Organization Standard

LMS: Labour Market Study

MoA: Ministry of Agriculture

MoL: Ministry of Labour

MOE: Ministry of Education

MONE: Ministry of National Education

NGOs: Non-governmental Organization

OXFAM: Oxford Committee for Famine Relief

PCBS: Central Bureau of Statistics

PARC: Agricultural Development Association

PPU: Palestine Polytechnic University

PTUK: Palestine Technical University-Khadoorie

PA: Palestinian Authority

TOR: Terms of Reference

UCAS: University College of Applied Sciences

UAWC: Union of Agricultural Work Committees



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CHAPTER ONE:

PROJECT BACKGROUND AND METHODOLOGY



EXECUTIVE SUMMARY:

PARC has been adopting a program for training of newly recently graduated agronomists for 30 years (early 1990s, 1992), Nearly 1,400 engineers: 34 training courses in West Bank and 25 training courses in the Gaza Strip) with the aim of developing their knowledge, skills and various abilities, through the various programs contained in the training program, which was specially designed by a group of experts and specialized professionals, to meet the needs of agricultural engineers and meet the needs of The requirements of the local and foreign labor .

This study will be conducted to identify two main components, firstly, it will identify and map the skills gaps: technical and interpersonal skills in the labor and secondly, it will shed light on the most prominent constraints and opportunities, on market actors and dynamics, of the selected value chains/ sectors including natural resources for climate change, women and youth employability, etc. (for the use in other outcomes) for small agribusinesses. The target area was the West Bank and Gaza Strip.

The research methodology was including: The kick off meeting, desk review, literature review, field-work, Data Collection from (276 different target groups: Questionnaires, Surveys, and Interviews) and Qualitative & Quantitative methods of analysis.

Based on the analysis of collected data through interviews, field surveys, focus groups and workshops, the study concluded with the following results, conclusion and recommendations:

From perspective of Agronomists:

- 1- Targeting more female agronomists for training and capacity building to balance the gender gap.
- 2- 78.79% of work nature is technical while 60.61% is administrative.
- 3- 88% of targeted agronomists are members of the agricultural engineers' unions.
- 4- 69.70% of targeted agronomists believe that they face administrative skills obstacles and challenges, which leads to a conclusion that agronomist should be targeted with administrative and entrepreneurial skills.
- 5- 45.45% of targeted agronomist have skills in computer and internet, therefore, it is advised to exclude computer skills from training courses, while 30.30% believe that they are very good with communication skills.
- 6- On the other hand, targeted agronomists believe that they have gaps in: Public relations, English language, survey collection, business development and research skills.
- 7- 81.82% possess farming skills, where 72.73% are highly skilled in supervision activities.
- 8- **Skills Gap Conclusion:** PARC is highly advised to include the following skills in its curriculum to overcome the gap among targeted agronomists: English language, reporting skills, writing skills, import/export skills, Agri-technology skills and marketing skills.
- 9- The targeted agronomists concluded that the most important agricultural fields required in the Palestinian labor market as following: Modern agricultural technology, hydroponics, irrigation and fertilizers use, IPM, protected agriculture, packaging and packing operations, and products.
- 10- PARC is highly advised to focus on the following personal skills:



(1) Work within a team	45.45%
(2) Demonstrate social responsibility	33.33%
(3) Self confidence	30.30%
(4) The ability to communicate with others	27.27%
(5) The Truthfulness and honesty	15.15%

11- PARC is highly advised to focus on the following technical skills:

(1) Understand and use technical terms in English	66.67%
(2) Computer and internet skills	57.58%
(3) Actively search and analyze information	51.52%
(4) Follow the standards of quality, health, occupational safety and environmental protection	45.45%
(5) Planning and implementation of projects	36.36%

12- PARC is highly advised to focus on the following managerial and entrepreneurial skills

(1) Planning and decision making	42.50%
(2) Innovation and creativity	35.00%
(3) Planning and decision making	28.12%
(4) Having a clear vision for the future	24.66%
(5) Familiarity with human and work relations	23.48%

From perspective of Employers:

13- 80.56% of targeted Employers are from private sector, as they represent the majority of Palestinian employers. PARC is highly recommended to focus on private sectors employers.

14- 47% of Employers believe that the technical skills represent a major challenge for agronomists.

15- **Required Skills:** Employers concluded that the following skills are important for the labor markets: English language reporting skills, Agri-Technology skills, Packaging and packing skills, technical skills, personal skills, communication skills and problem-solving skills.

16- **Exciting Skills:** Employer concluded that the current and existing skills for working agronomists are: Farming skills, supervision skills, computer skills, marketing and sales, export/import skills and purchases skills.

17- **Skills Gap:** From Employers point of view, the following skills constitute a crucial gap in the labor market: English language reporting skills, theoretical vs. practical skills, technical skills, technological skills, product development skills and marketing skills.

18- **Employers VS. Agronomists projections skill gaps:**

Skill Gap	Agronomists	Employers
Social Media	12.12%	38.89%
Marketing	18.18%	40.74%
Agri-Technology Applications	27.27%	53.70%
English Language Reporting	51.52%	73.15%



19- Skills vs. Sectors:

SKILLS	Private Sector	Civic Society	Cooperatives	Governmental	Plant Production	Animal Production	Food Processing
Proposal Writing	0.00%	39.39%	2.35%	1.00%	0.00%	0.00%	0.00%
English Reporting	32.50%	62.33%	1.25%	9.50%	12.00%	0.00%	9.00%
Agri-Tech. Applications	40.49%	0.00%	8.00%	0.00%	18.89%	3.00%	21.00%
Marketing Skills	29.46%	0.00%	12.00%	0.00%	33.00%	18.00%	56.00%
Technical Skills	56.48%	0.00%	8.00%	0.00%	21.00%	25.00%	36.00%
Import/Export	36.36%	0.00%	0.00%	0.00%	11.00%	2.00%	48.00%
Communication Skills	39.81%	56.00%	18.00%	13.00%	16.00%	11.00%	19.00%
Admin Skill	19.36%	48.00%	31.00%	36.00%	17.00%	8.00%	32.55%
Hebrew language	6.06%	0.00%	0.00%	0.00%	5.50%	4.00%	6.00%
Computer Skills	17.59%	67.00%	8.00%	44.00%	5.00%	8.00%	36.00%
Packaging	20.37%	0.00%	15.00%	0.00%	50.00%	16.00%	43.00%
Product Development	51.85%	32.00%	0.00%	0.00%	11.00%	5.00%	55.00%
Quality Control	34.26%	0.00%	0.00%	0.00%	12.00%	3.00%	64.00%
Team work	24.07%	20.00%	5.00%	13.00%	16.00%	14.00%	11.00%

Recommendations at organizational and National Level:

1. Establishment of Agri-Skills Living Laboratory (ASL):

The Agri-Skills Living laboratory are national partnership organization that will bring together all the stakeholders (Agronomists, public sector, NGO's, private sector, employers and the training and educational providers) for the common purpose of workforce development within the agricultural sectors including Agri-industrial sector.

2. Establishment of Skills Development Fund:

Skills development needs specific and adequate resource. In order to encourage investment in skills development, especially where there are severe skill gaps, the government can initiate a skill development financial support where employers have to contribute. The collected financial support is channeled into the Skills Development Fund (SDF), which provide grants to ATVET and partially to companies that send their graduates and workers for training.

3. Promoting Public-Private Partnership (PPP) for internships and skills programs:

Public-Private Partnership should be enhanced in Palestine to promote attachment, apprenticeship and internship opportunity for trainees and graduates.

4. Invest in Mentorship Programs for Agribusiness:

There is need to implement a national mentorship Programme for Agribusiness. Such a program should target young and innovative investors in the subsector by identifying and placing such investors for 3-6 months in identified establishments in Palestine. The selection of youths should be through a competition across the country. The Programme should be popularized through the media.



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5. Investing in Research Stations and Pilot Farms:

There is need to invest in research and demonstration farm at the district level to provide a practical community training based on the priority cluster products. Training institutions need to study the best practices and adopt the same according to Palestine needs. These should be used as research and development facilities and to demonstrate

6. Short term trainings with specific skills sector:

It is vital that short-term trainings curricula developed with strong intervention of the specific sector key experts. Also, training programs should not only be based on conventional lower level skills, such as memorization and recall, but help students and graduates develop higher-order thinking skills such as applying, analyzing, evaluating, and creating through allocation of a greater portion of the training time to learning by doing. Along with the training programs, a scheme of quality control of the agenda and delivery should be applied.

7. Employers' Smart Flexibility in Managing People:

Employers, especially those of mainstream, need to be taught contemporary management techniques and take into consideration the types/age and interests of people working in their companies.

8. Policy Review: Apprenticeships:

As our study shows with regard to high demand of youth in opportunities to practice the knowledge and need of employers for more specific and relevant competences on the other hand, and also the speed of real changes possible in the education, the best-fitted solution can be introduction of modern apprenticeships.

The system has proven its effectiveness in many of those countries who are driving global GDP and are economically viable.



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CHAPTER ONE: INTRODUCTION AND BACKGROUND OF THE REPORT STUDY

1.1. PROJECT BACKGROUND:

The Agricultural Development Association (Agricultural Relief, PARC) has been working on adopting a program for training and qualifying newly graduated agricultural engineers from local and foreign universities for 30 years (early 1990s, 1992). The number of engineers graduated from this program since its establishment until now has reached nearly 1,400 engineers in the West Bank and Gaza Strip, with 34 training courses in the West Bank and 25 training courses in the Gaza Strip. The program aims to develop their knowledge, skills and enhance their abilities to acquire different experiences through varied programs and exercises contained in the training program. The program was specially designed by a group of experts and professional specialists, to fit the needs of the agricultural engineers from the training Programme, and thus meet the needs and requirements of the local and external labor market skills.

The PARC contracted with a group of experts to conduct a study on the skills required for newly graduated agricultural engineers with focus on agronomists in the labor market in the agricultural sector for the last three years, in addition to identifying and analyzing the personal, technical and administrative skills gap. And this contract is part of a project Within the project: “Promoting sustainable livelihoods and inclusive economic opportunities in rural communities in the occupied Palestinian territories (ARDI II)” donated by Luxemburg and implemented by PARC.

The project aims to contribute in enhancing sustainable livelihoods in rural communities. Thus, all outcomes, outputs, and activities are aligned to fulfill this goal. The sustainable livelihood frameworks suggest that in order for communities to be less vulnerable to shocks, trends and seasonality. Their livelihood assets need to be improved in order to achieve livelihood outcomes, to increase income, to increase well-being, to reduce vulnerability, and to improve food security. The proposed project’s interventions are mainly focused on strengthening the targeted beneficiaries’ livelihood assets. The livelihood assets are composed of human capital, which is related to enhancing skills, knowledge, and ability to work.²

Social capital focuses on general relationships, exchange of reciprocity, and membership, whereas natural capital focuses on accessing, and improving productivity of natural resources, like water and soil. Physical capital focuses on infrastructure and production of goods and services. And, financial capital, which is concerned with inflow of money and stocks. The focus of this project is mainly on human capital, natural capital, physical capital and financial capital.

¹ PARC: (2022): <http://www.pal-arc.org/tenders/index/ar-2022>

² PARC: (2022): <http://www.pal-arc.org/tenders/index/ar-2022>



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The first outcome “job creation and employment for farmers, women, and youth have improved” aims to firstly improve the human capital through providing market driven training for fresh graduate agronomists, and also by providing ATVET training for agronomists, technicians and farmers. The market driven training will enable the targeted beneficiaries to increase their chances of finding employment either through the labor market or through self-employment. Additionally, the first outcome focuses on enhancing financial capital for beneficiaries. Since, the third output focuses on women and female youth entrepreneurship in the agri-business sector, through providing grants for selected initiatives and ongoing mentoring. Thus, enhancing the targeted beneficiaries' access to resources, and increasing their income.

The second outcome “market readiness of small agribusiness and incentivized private sector adopts more equitable practices” also addresses the human capital, the financial capital in addition to natural capital and physical capital. Firstly, in this outcome, small agri-businesses (farmers) will be capacitated in Good Agricultural Practices “GAP”, and will be provided with inputs which will allow them to increase the quality and quantity of their produce and goods. Additionally, the private sector will be targeted with incentive packages to increase their productivity and production capacities, in exchange to having more equitable and trustful partnership with the targeted farmers and small agribusinesses.

Lastly, the third outcome “enhance communities’ resilience through improved access to climate-smart agricultural technologies and strength knowledge and capacities to respond to emergencies and disasters” focuses on the human capital, financial and natural capital. As it is mainly concerned with enhancing the capacities of communities on matters related to climate change, through updating the communities Disaster Risk Reduction “DRR” plans, in addition to providing grants to support Agri-tech ideas that will be implemented in the targeted localities as means for climate change adaptation. Which will contribute to reducing these communities’ vulnerability, and allow them to have more sustainable livelihoods.

1.2. PARC TRAINING PROGRAM FOR NEWLY RECENTLY AGRICULTURAL ENGINEERS:

The Agricultural Development Association (PARC) has been working on adopting a program for training and qualifying newly recently graduated agricultural engineers from local and foreign universities for 30 years (early 1990s, 1992), as the number of engineers who graduated from this program since its establishment until now has reached nearly 1,400 engineers in the West Bank and Gaza Strip (34 training courses in West Bank and 25 training courses in the Gaza Strip) with the aim of developing their knowledge, skills and various abilities, through the various programs contained in the training program, which was specially designed by a group of experts and specialized professionals, to meet the needs of agricultural engineers and meet the needs of The requirements of the local and foreign labor³.

³ PARC: (2022): <http://www.pal-arc.org/tenders/index/ar-2022>



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The objectives of the training program for newly graduated agricultural engineers have been set since its inception in 1992, in line with and achieve the general and subsidiary objectives of the training program as a whole, and they were as follows:

1.2.1. THE GENERAL TRAINING PROGRAMME OBJECTIVE:

Supply and support the Palestinian agricultural sector with human resources and cadres trained and qualified technically, practically, skillfully, socially, administratively and personally in line with the needs and requirements of the local Palestinian or external labor market by raising the efficiency and technical, administrative, specialized and personal expertise of the agricultural engineer as an integrated professional profession.

To achieve the general objective, the sub-objectives were formulated to raise the efficiency, knowledge, experience and skills of agricultural engineers and trainees in various fields, namely:

1.2.2. SUB-OBJECTIVES:

- a. Comprehensive sustainable rural development and areas of work and development.
- b. The Palestinian national economy in general and the agricultural sector in particular and its fields (plant production, animal production, livestock, fish, food processing and environment)
- c. Modern agricultural systems and techniques that are being worked on, such as the organic farming system, the Global Gap system, export crops, value chains, various quality systems in agricultural production, agricultural technology and leadership
- d. Various development methodologies and their continuous development, such as agricultural extension, value chains for agricultural products, product quality and marketing
- e. Development and agricultural work institutions in Palestine and their areas of work through direct training in project implementation
- f. How to prepare economic and financial feasibility studies for public and private agricultural and entrepreneurial projects
- g. Develop the trainees' communication, communication, leadership and management skills
- h. Identifying the experiences of the labor market and contributing to its development
- i. Acquaintance with modern agricultural technologies and developments in neighboring countries through external training⁴.

1.2.3. TARGET GROUP FOR TRAINING:

Newly graduated agricultural engineers from the majors of plant production, animal production, food processing and the environment, who have graduated no more than 3 years ago.

⁴ PARC: (2022): <http://www.pal-arc.org/tenders/index/ar-2022>



1.2.4. TRAINING PERIOD:

Eight months between specialized technical training and administrative, personal and social skills, distributed between practical and theoretical, visits and various field tours.

Stages of program development and implementation mechanisms since its inception:

- 1992 Started as a training program implemented by Agricultural Relief through its work in the field focusing on the aspect of agricultural extension and the projects implemented by it by accompanying the trainees to the institution's guides, each in his area by 4 field days / week, in addition to a theoretical training day per week in which the trainees meet in one of the Agricultural Relief Offices.
- 1993-1995: directing the implementation of the training program to the Jericho region and the Jordan Valley with the introduction of the idea of lodging and accommodation for the trainees (intensive practical training at relief farms in Katt El-Wad, accommodation and theoretical training at the Ain Al-Sultan Center).
- 1995-1999: There was a quantum leap in the development of the program by working to provide an infrastructure and a training environment that would achieve the program's objectives by establishing and building an independent training center for the program in Jericho (the Martyr Raja' Abu Amasha Center) with the aim of integrating the program in terms of practical and theoretical training and accommodation with the availability of The agricultural areas of the center for the purpose of intensive practical training.
- 2000-2001: Establishing a training center in Al-Zababda (Martyr Naim Khader Center) and introducing the Higher Diploma Program in Rural Development and Agricultural Extension in cooperation with Abu Dis University.
- 2001-2006: directing the program to adopting modern agricultural systems and techniques and comparing them with traditional crops, especially “safe crops such as organic agriculture and municipal seeds, their requirements and importance, by focusing on practical application in the center’s farm (20 dunums) in addition to technical, administrative and skills theoretical training.
- 2006-2007: The program adopted the system of export-intensive agriculture with practical and theoretical application⁵
- 2008-2012:
 - ✚ The program adopts safe and sound agricultural practices and quality systems on vegetables, documentation and quality certificates, and the introduction of modern crops such as strawberry, roses and medicinal herbs, as well as the requirements for their packaging and marketing ... etc.
 - ✚ Introducing a new methodology on training by focusing on specialization and training in private sector companies and institutions by distributing the trainees to specialized training groups that are rotated around the training places to include trainees staying at farms, companies and private sector institutions

⁵ PARC: (2022): <http://www.pal-arc.org/tenders/index/ar-2022>



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- ✚ Not focusing on the practical application aspect of the Jericho Training Center farm as a major and very important part of the program
- 2013- 2021:
 - ✚ Continuity with the same methodology from adopting the system of specialized training groups and distributing trainees for training with private sector institutions and companies, in addition to focusing on visits, field tours and intensive practical exercises, introducing and developing new concepts and training areas of value chains, marketing, entrepreneurship, acceleration and incubation of private and emerging projects.

In continuation of the giving and leadership of Agricultural Relief in developing methodologies for training agricultural engineers and in parallel and as an extension of the existing training program, a model for a specialized training program (Go Professional) was developed for newly graduated agricultural engineers in the West Bank and Gaza Strip, benefiting 90 engineers and engineers for a period of 8 intensive months in the production chains of agricultural crops Specific and livestock sectors followed by 3 operational months for agricultural engineers in the West Bank and Gaza Strip.

1.2.5. TRAINING ASPECTS OF THE PROGRAM:

The Agricultural Engineers Training Program is based on multiple training aspects, including theoretical and practical, technical, developmental, skill, personal, social and societal training in scientific, academic and applied aspects, and development and pioneering methodologies, which universities do not provide during the study. This training includes four axes:

First: Life skills and the development of administrative, personal and social skills for newly graduated agricultural engineers:

It includes the implementation of multiple courses in life skills, such as communication skills, planning, monitoring and evaluation, writing project proposals, writing reports, statistical analysis, computer programs, English language, leadership, leadership, financial analysis, economic feasibility and preparation, volunteer and community work, self-marketing. etc

Second: Develop developmental skills and multiple developmental methodologies:

It includes introducing engineers to information about the reality of the agricultural sector in Palestine and in the world, in addition to introducing them to the importance of sustainable rural development and active governmental and civil institutions in this field in Palestine, in addition to practical training on the mechanisms and methodologies for implementing development projects in agricultural relief and partner institutions

Third: Applied Specialized Training for Engineers:

Where the trained engineers are allocated a plot of land and greenhouses or livestock farms in the training centers of the Agricultural Development Association, through which they plant a variety of crops for the purpose of specialized training and include follow-up of all field agricultural operations (cleaning the soil from the remnants of the previous crop, plowing the soil, planting



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seedlings, irrigation, fertilization, disease and pest control) and supervision from the beginning until the stage of crop production and marketing. The trained engineers are followed up during the implementation of these operations by a number of agricultural engineers who have extensive experience in this field⁶.

Fourth: Intensive practical training for engineers:

It includes practical tours and field visits to typical and specialized farms, nurseries, factories and agricultural companies, in addition to distributing engineers according to their technical specializations to specialized groups, with the aim of practical training with one of the agricultural companies and institutions active in the agricultural sector, allowing them to have practical training on the ground and to establish human relations And networking with these institutions to work for them after completing the training.

Since its inception, the training program has succeeded in marketing newly graduated agricultural engineers and helping them to obtain job opportunities after training. Approximately 75% of each batch of engineers annually find job opportunities, either internal to the projects of the Agricultural Development Association and the Association of Arab Agricultural Engineers, or external job opportunities with Various agricultural sector institutions and companies, where a large number of graduates of this program occupy senior positions in local and international institutions active in the agricultural and development sector.

1.3. PURPOSE AND SCOPE OF THE REPORT:

This study will be conducted to identify and map 2 main components. Firstly, it will identify and map the skills gaps, drivers, dynamics, challenges, and needed skills (technical and interpersonal skills) in the labor market for farmers, women, technicians, and agronomists, with projections for the upcoming years as well. Secondly, it will shed light on the most prominent constraints and opportunities, on market actors and dynamics, including gender and governance dynamics, of the selected value chains/ sectors including natural resources for climate change, women and youth employability, etc. (for the use in other outcomes) for small agribusinesses.

The main objective of the study is to conduct an agriculture employer mapping in terms of the needed skills in working fields among the agronomists, as well as, to identify the skills gaps matrix in the agriculture sector in the West Bank and Gaza Strip.

In specific, the current study seeks to achieve the following objectives:

- Updating the employer mapping in the agriculture sector with detailed and up to date information including the technical gaps in the field.
- Updating the skills matrix of the agriculture related graduates, and pinpointing the main skills gaps.

⁶ PARC: (2022): <http://www.pal-arc.org/tenders/index/ar-2022>



- Identifying/updating and mapping the skills gaps, drivers, dynamics, challenges, and needed skills (technical and interpersonal skills) in the labor market for farmers, women, technicians, and agronomists, with projections for the upcoming years as well. With special focus on agronomists.
- shedding light on the most prominent constraints and opportunities, on market actors and dynamics, including gender and governance dynamics, of the selected value chains/ sectors including natural resources for climate change, women and youth employability, etc. (for the use in other outcomes) for small agribusinesses.

1.4. SCOPE OF REPORT:

- Identify the nature of the agriculture labor market.
- Identify the set of skills needed by the Agriculture Labor market participants with a specific focus on youth and farmers, and to highlight the gaps in skills provision.
- Determining the life skills, administrative, personal and social skills gaps for newly graduated agronomists.
- Determining the technical and specialized agricultural skills gaps for newly graduated agronomists, farmers, women, and technicians with projections for the upcoming years as well. With special focus on agronomists.
- Determining the gaps in the theoretical and scientific-technical skills and between the practical application gaps for agronomists.

Given that the labor market study is dynamic and ever changing and to enable PARC to properly plan for future interventions, PARC sought to update agriculture employer mapping, as well as to update the skills gap matrix in the agriculture sector.

1.5. FURTHER KEY QUESTIONS TO BE ANSWERED:

- **The first question:** What skills do female agricultural engineers have compared to male engineers?
- **The second question:** What is the role of the government sector in developing the skills of newly graduated agricultural engineers?
- **The third question:** What is the role of the private sector in developing the skills of newly graduated agricultural engineers?
- **The fourth question:** What is the role of the private sector in developing the skills of newly graduated agricultural engineers?
- **The fifth question:** What training is required in the areas of skill development? Specialized, focused and short training (6 months or less) or varied, multiple and long-term training (one year or less) or more than one year?



- **The Sixth question:** What is the importance of developing skills in the field of agricultural technology (High aggrotech)? Such as: digital marketing, clean energy and its uses in the agricultural field, climate-smart agriculture, water scarcity gardens, precision agriculture, artificial intelligence applications in agriculture, biotechnology and genetically modified products and others?
- **Seventh question:** What is the most appropriate training style in developing skills: training, guidance, counseling, or a combination of both?

1.6. STUDY GEOGRAPHICAL AREAS

1.6.1. West Bank

This study will cover the following governorates in the West Bank: Hebron, Jenin, Tubas, Jericho, Tulkarm and Qalqilya.

A survey of skills required in the agricultural sector in the West Bank should be conducted to identify the agricultural sub-sectors that absorb skilled labor and that are likely to increase employment opportunities; To boost employment in this sector; Familiarize yourself with workforce functions and the level of skills and training that organizations offer; Identification of institutional relationships, barriers, and opportunities for promoting employment in agriculture; Learn about the policies that affect the labor market, and what are the implications of the reform; To identify target population characteristics and dynamics, entry points to youth groups and farmers.

1.6.2. Gaza Strip

In Gaza Strip the study will be sectorial that covers the whole agriculture sector Included all required skills needed to Palestinian labor market and to identifying the missing gaps skills. The survey of skills required that absorb skilled labor and that are likely to increase employment opportunities; Identifying institutional relationships, barriers, and opportunities for promoting employment in agriculture; To identify target population characteristics and dynamics, entry points to newly graduate agronomists and youth.

1.7. RESEARCH METHODOLOGY:

The study of the labor market in the agricultural sector, which will focus on the skills required for newly graduated agricultural engineers in the last three years, will depend on the descriptive approach, field survey, quantitative and qualitative analysis to match the results and find the needs and skills gap.

Due to nature, scope, and issues with the timing and duration of the assignment; a phased approach will be best suited to this assignment, in accordance with the terms of reference, as it allows the consultant to validate or refute preliminary findings of the different data collection instruments and stages. The approach is hybrid between the structured and semi-structured phases/processes, the research team proposes four main stages to be deployed.



1.7.1 KICK OFF MEETING

The research team will set 3 initial meetings to design and discuss the research road map, timelines, tasks distribution, targeted areas, selected groups. Kickoff meeting discussion will be divided as follows: -

- Discussed the methodology and implementation plan.
- Research logic and validation.
- Confirm initial and final objectives.
- Expected final outcomes.
- Specify targeted stockholders.
- Field logistics and arrangements.
- Specify qualitative and quantitative tools to be used in the research.
- Data collection process and desk research (pre-field visits).

1.7.2. DESK REVIEW

- The research team will conduct desk reviews to gather data on relevant research studies.
- Review project documents.
- Previous existing literature from several NGOs.
- Recent publications: - Intervention strategies, implementation plans.

The desk research will shed a light on local and regional experiences of existing required skills for newly graduated agronomists. Identifying all the current/previous situations in relation to the required market labor skills.

The desk research will also give insight into the experiences and expertise of similar programs in local governmental and non-governmental bodies such as the Ministry of Agriculture, the Ministry of Labor, the Ministry of National Education and the National Commission for Vocational Education and Training among others.

Identify the previous/current/future challenges that may affect the developments training programs and its required agricultural skills for newly graduated agronomists to the labor market.

In addition to the development of research tools to be used in the research to provide wider understanding of the required skills and its labor force including hitch in agri-business and marketing skills, and future development in the selected governorates and areas.

The team will be using a combination of PESTLE AND SWOT to determine the obstacles, challenges, weaknesses and opportunities of the agronomists.



1.7.3. FIELD-WORK, DATA COLLECTION (QUESTIONNAIRES, SURVEYS, AND INTERVIEWS):

A qualitative and quantitative questionnaire /surveys to be designed to meet the research outcomes and expectations:

- Qualitative method: To collect information from 50 key personnel/formal bodies/NGOS or any relevant body about required skills in the agro sector to the labor market. Interviews and focus groups.
- Quantitative method: Interviews and questionnaires with 230 Relevant governmental bodies, Semi-governmental bodies, Owner Farmers, Entrepreneurs, Factories and CBOs, Universities (Faculties of Agriculture), Agricultural engineers (Workers), employed agricultural engineers (Old Graduates) and Employers (Farms, Companies, CBOs, Factories and Service Providers), (see tables 1 &2). The questionnaire/surveys' goal is to identify the current situation and challenges that the agronomists and employment status face in the different field of skills.

1.7.4. TARGETED GROUPS:

Table. 1. : Study Target Groups		
#	Activity	Target Groups
1	Structured Interviews	Interview, meetings, and focus-group among the PARC team to understand the expected questionnaire outcome. (Goal setting)
2	Semi-structural	Relevant governmental bodies: MoA, MoNE, MoL, CWAI Agricultural Engineers Association, Specifications and Standards, Environmental Authority, Water Authority, Agricultural credit institutions, (Discuss law, regulations, and current situation)
3	Semi-structural	Semi-governmental bodies: Agricultural Faculties, Chamber of commerce, NGOs, Entrepreneurial business accelerators
4	Key actors	Owner Farmers, Entrepreneurs, Factories and CBOs
5	Validation sessions	Conduct focus groups with the selected stakeholders to validate findings at an early stage.



1.7.5. QUALITATIVE & QUANTITATIVE QUESTIONNAIRES & INTERVIEWS RESEARCH STUDY:

Table.2.: Qualitative & Quantitative Questionnaires & Interviews Research Study						
#	Activity	Target group west bank	Target group Gaza	Total	West bank	Gaza
1	Interviews No.1	Relevant governmental bodies: Ministry of agriculture, directorates, Ministry of national Economy, MoNE), Ministry of Labor (MoL), Ministry of Education (MoE), Palestine Central Bureau of Statistics (PCBS)	Relevant governmental bodies: Ministry of Agriculture(MoA), doctorate, Ministry of national Economy (MoNE), Ministry of Labor (MoL), Ministry of Education (MoE), Palestine Central Bureau of Statistics (PCBS)	20	10	10
2	Interviews No.2	Semi-governmental bodies and NGOs: PARC, OXFAM, Ma'a'n Institute, Palestinian general federation of trade unions – PGFTU, Economic & Social Development. Center of Palestine, Agricultural Engineers Association, Hydrological Group, land research center, farmer's union, Farmers' Union	Semi-governmental bodies and NGOs: PARC, OXFAM, UAWC, Ma'a'n Institute, Economic & Social Development. Center of Palestine, Islamic Relief, France, Agricultural Engineers Association, Gaza Urban Agriculture Platform (GUPAP), Hydrological Group	19	10	9
3	In-depth Interview 3	Academic sector (Faculties of Agriculture): Palestine Polytechnic University: PPU (Hebron, Tulkarem, Ramallah), Al-Quds Open University	Academic sector (Faculties of Agriculture): Al-Azhar University, UCAS	7	5	2
4	Questionnaire No1	Fresh Graduates or last year in study	Fresh Graduates or last year in study	30	20	10
5	Questionnaire No.2	Employed agricultural engineers (Old graduated Agronomists)	Employed agricultural engineers (Old graduated Agronomists)	50	30	20
6	Questionnaire No.3	Employers (Farms, Companies, CBOs, Factories and Service Providers)	Employers (agricultural associations, Farms, Companies, CBOs, Factories and Service Providers)	150	75	75
				276	150	126



The above questionnaires to be developed by the research team. As its clear in the table above, the questionnaires will be designed in line with:

- The objectives of the study and according to the classification of the target groups in order to obtain high quality data.
- Questionnaires' design will depend on the desk research and the study's ToR
- Interview questions and discussion will be set post-desk research phase.
- Questionnaires, Surveys, and interviews data will be analyzed using statistical applications (to be determined).

The interviews will be conducted on four levels: -

- 1- Project implementation staff.
- 2- Governmental bodies.
- 3- NGOs, NGOs, and research centers.
- 4- Relevant unions and federations (Farmers, workers, chambers of commerce).

After conducting the interviews, the research team will analyze the data to extract facts, numbers, current situation, future perspectives, gaps and challenges.

Inductive Method of Analyzing Interview Transcripts

Thematic content analysis begins with clearing out biases and establishing the main impressions of the data. The goal is to find common patterns across the data set.

A narrative analysis involves making sense of the interview respondents' individual narrative. Using this analysis aims to highlight important aspects of the interviewees perspective and highlight critical points found in other areas of the research.

1.7.6. DATA ENTRY AND DATA ANALYSIS

After conducting the 280 Questionnaires/Interviews with all key personnel, NGO's, gov-bodies, companies, research-institutes, and stakeholders (All the previous will be conducted at different levels), a triangulation assessment/analysis will be conducted to conclude the results of the above data using scientific research tools such as R studio, Excel Statistic, and SPSS. A scoring system will be presented to reflect the different layers of interventions.

The analysis results will provide an overall insight of the main obstacles, challenges, weakness, opportunities, strengths, potentials to the labor market systems in JV amongst the local required skills. The findings of the research will contribute to drawing a clearer understanding of the binding constraints and key challenges that face the agronomists and their skills in the local labor market.



1.7.7. ACTION PLAN AND TIME-LINE

Table.3.: Study Action Plan And Time-Line									
Task & Deliverables	Year 2022								
	25 June	July				25 August			
	w4	W1	W2	W3	W4	W1	w2	w3	w4
Kickoff Meetings									
Desk Reviews									
Questionnaires Structuring									
Tools Development									
Field Work and Data Collection Process									
Data Analysis Phase									
Drafting initial findings and analysis									
Submitting the first draft for feedback and comments									
Validation sessions									
Processing notes and fine tuning of the research									
Conclude Gabs Matrix									
Finalizing and submitting approved version									



1.8. LITERATURE REVIEW:

A review of relevant studies and previous literature showed that many studies addressed the issue of the labor market and the skills gap from a general perspective, with few of them specifically addressing the agricultural labor market the skills of agricultural engineers and the need to match the skills provided with the employment needs of sub-sectors in order to bridge the “skills gap”. The section below will attempt to summarize relevant findings from the available literature and highlight any relevance to the topic of this report.

A study conducted by CARE International confirmed that the gap is wide between what the labor market needs and what is available in all sectors in general⁷. While 80% of employers confirm that they find it difficult to find qualified people for jobs, 33% of educational institutions confirmed their confidence in the eligibility of their education to provide the necessary skills for the market. The same study indicates that the biggest obstacles facing graduates are the lack of practical skills among job applicants. The agricultural sector has the widest technical skills gap between the different sectors. 28% of the companies confirmed that they provide opportunities for training new graduates among the total number of employers. As for self-training by graduates, the situation is not better, as only 22% of graduates use the Internet to develop their skills, and 40% of those seek to train themselves before employment. The same study showed that the urgent need for skills for the agricultural sector are skills related to the profession itself, i.e. technical skills, and not those associated with modern technological developments like other economic sectors, meaning that basic skills are still lacking and that university education does not provide them. As for the differences between the sexes, it was found that men are more confident in their skills than women, while women are more eager to develop themselves, and the gap between men and women’s skills in entrepreneurship is increasing⁸.

Studies of the Palestinian Statistics Center indicate that the wages of the agricultural worker is 67.5% less than the wages of other sectors⁹. A study by the Food and Agriculture Organization of FAO¹⁰ and another by CARE recommends that in order to bridge this gap, it is necessary to increase the skills of agricultural workers, especially agricultural practical skills, agricultural trade skills, and marketing skills. The study also emphasized the urgent need for life and personal skills, in addition to technical skills in the field of work and related to any sector.

The agricultural sector strategy (2017-2022) indicated that the universities and training programs available in Palestine graduate a number of cadres, but their qualifications are not in line with the

⁷ Award, 2015. The Skills and Development Gap in the Occupied Palestinian Territory. A study for CARE International, funded by the British Department for International Development

⁸ PARC, 2019: A study of Vocational Training Program Development Study (Be a Professional)-2019

⁹ PCBS: (2016): Palestinian Statistics Center: Economic Statistics-2016

¹⁰ FAO: (2011): Palestinian Women's Associations and Agricultural Value Chains, Agricultural Case Series #2



needs of the labor market. And farmers alike. The strategy shows a plan to implement more than 500 training workshops in various fields over a period of five years.

In view of the analysis of value chain reports for some crops such as palms, grapes, as well as dairy, which was carried out by Oxfam, the weak training opportunities and lack of competencies among workers were mentioned each time as one of the challenges facing the development of the value chain for crops, and one of the common recommendations was the need to train actors along the value chain to raise production efficiency.

There is a surplus of graduates at the bachelor's level from the faculties of agriculture, but with a poor quality of training. There is no continuity in the current system of agricultural training between the secondary and post-secondary levels of vocational training¹¹. A master's research¹² conducted in 2007 touched on the problems facing agricultural education in Palestine and ways to treat them. The researcher stressed the need to develop agricultural school teachers as a basis for advancing technical agricultural education. He indicated that one of the most important weaknesses in education is the lax admission rates in agricultural colleges.

The situation of agricultural competencies in Palestine is not much different from its counterparts in Arab countries. Despite the fact that agriculture is the main work for most of the population of Arab countries, technical and vocational education in general is weak when compared to other countries. There are shortcomings in the educational, technical and vocational curricula to prepare graduates of the required level, and there is insufficient specialization in the various technical and professional fields and the disproportion between the theoretical and scientific aspects.

In general, it can be safely concluded that there is a scarcity in resources and literature directly addressing the agricultural labor market whether in Palestine. Within the little available literature, there is an agreement that despite the utmost importance of the agricultural sector, there has been a diminishing contribution whether to GDP contribution or to employment capacity. Nonetheless, there is a consensus among studies and reports on the following findings:

- The agricultural sector is a sector that drives employment into the service and manufacturing sectors in times of economic growth and attracts employment¹³.
- The agricultural engineer suffers from a lack of skills in technical, life and technical fields, especially in the areas of business-related skills such as farm management, marketing and agricultural Hi-technology.

1.9. OBSTACLES AND CHALLENGES FACED DURING THE STUDY

The team has faced some challenges during the preparation of the study summarized as follows:

¹¹ Care International, 2012. Gender analysis of Assistance Small- Scale Farmers, breeders and households in WBG

¹² Arab Agricultural Engineers, 2003: A study entitled: "The Role of Palestinian Agricultural Relief in Rehabilitation of Agricultural Graduates from Local and Foreign Universities"

¹³ PARC, 2022: Labor Market Study of Agriculture sector in Jordan valley



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- ✚ Hesitance to cooperate by some institutions and formal bodies.
- ✚ Absence of official enough information regarding the number of agronomists newly graduates, skills and working opportunities.
- ✚ The scarcity of references and resources.
- ✚ Lack of up-to-date information about the subject of the study at the secondary resources level.
- ✚ The late PARC staff response to fill out the study questionnaires in West Bank and Gaza Strip

1.10. REPORT STRUCTURE

The following contains an outline for the Final Report:

Preliminaries

- Cover Page
- Acknowledgement
- Research and Project Teams
- Table of Contents
- List of Figures and Tables
- List of Acronyms and Abbreviations

Executive Summary

Chapter one:

Introduction and Background of the Study. This Chapter Includes: Project Background, PARC Training Program, Purpose, Scope of Report, Methodology, Target Groups, Target Areas, Data Collection & Analysis, Action Plan, Literature Review, Obstacles and Challenges and Report Structure.

Chapter Two:

An Overview On the Agricultural Sector in Palestine:

Chapter Three:

The Agricultural Technical Vocational Education and Training (ATVET) in Palestine

Chapter Four:

An overview on the Agricultural Labor Market in Palestine:

Chapter Five:

Fresh Graduate Agricultural Engineers

Chapter Six:

Findings, Conclusions and recommendations

References

Annexes

- ToR
- List of persons interviewed or participated in discussions
- List of documents and literature reviewed
- Questionnaire(s) used



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CHAPTER TWO: AN OVERVIEW ON ECONOMIC AND AGRICULTURAL SECTOR



CHAPTER TWO: AN OVERVIEW ON ECONOMIC AND AGRICULTURAL SECTOR

2.1. GENERAL ECONOMIC CONTEXT:

Agricultural activity represents the strongest pillar that supplies the Palestinian economy with one of the most important sources of GDP. It contributes to covering part of the final food consumption; In addition to its contribution to the provision of commodities and raw materials that are used as inputs in many manufacturing industries.

In addition to being an important component of Palestinian exports. Agricultural activity in Palestine is characterized by its dependence mainly on rain, and its limited dependence on modern agricultural methods.

The role of agriculture is not limited to the economic and social aspects. Rather, it is considered a major contributor to the protection of lands from confiscation and settlement, and the protection and use of water rights.

The local agricultural production achieves a large percentage of self-sufficiency. It also contributes to the development and supply of other sectors with raw materials. Therefore, it is considered the main supporter of the Palestinian economy.

This sector falls within the circle of targeting by the permanent occupation authorities; The occupation has taken several ways to seize agricultural lands and restrict the Palestinian citizen; To force him to emigrate and force him to abandon his bond in the homeland.

Among these policies and means are: confiscation of land, building settlements, constructing the apartheid wall, and constructing bypass roads that devour Palestinian agricultural lands. With his policies, he followed many measures that are constantly evolving and aggravating and in a feverish pursuit in a race against time over the years; To impose a fait accompli that confronts the Palestinian right.

The Palestinian economy has been suffering from a series of setbacks and declines in growth rates due to several structural imbalances and distortions, combined with high dependency on the Israeli economy and in particular the control over movement of people and goods.

As a result of the impacts of the Coronavirus pandemic, the Palestinian economy has recorded a sharp decline reaching 12% during 2020¹⁴, as most economic activities experienced setbacks in the value added leading to a noticeable decrease in the GDP per capita and a rise in unemployment

¹⁴ <https://www.pcbs.gov.ps/post.aspx?lang=en&ItemID=3879>



rates with new segments of the population entering the poverty cycle, which led to a decline in the public demand on the consumption and gross investment indicators.

GDP has increased but remained at a lower level than its pre-pandemic rates. This was also due to the Israeli occupation measures of withholding clearance tax revenues which lasted for more than seven consecutive months. It is well-known that those funds constitute 70% of the total Palestinian revenues and are considered the main source of funds used to cover current expenditures. At the expenditure level, gross consumption in Palestine dropped during the same period by 6%, whereas gross investment dropped by 36%.¹⁵

In 2022, The Palestinian economy was stagnant and the socio-economic situation already difficult prior to the breakout of COVID-19. This is attributed to restrictions by Israel (on trade, movement and access), recurrent hostilities, internal divide, and falling aid inflows.

During 2017-19, annual GDP growth averaged 1.3% — lower than the population growth rate resulting in decreasing per capita incomes and increasing poverty. Growth decomposition shows that this was driven by accumulation of factors and not improvements in productivity.

In recent years, gross investment has averaged about 26% of GDP, but the bulk of this has been channeled into activities in the non-tradable sectors, rather than sectors that could have served as escalators for growth. Likewise, foreign direct investment, at a mere 1% of GDP, is very low.

Estimates based on GDP per capita growth suggest that in 2020 the poverty rate spiked to 29.7%, an increase of nearly 8 percentage points from 2016 (latest available official data). As the impact of the pandemic receded, the poverty rate is estimated to have declined to 27.3% in 2021. Current poverty rates represent a poor population of approximately 1.5 million people¹⁶.

¹⁵ Palestinian Central Bureau of Statistics (PCBS)

¹⁶ The World Bank (2022): Palestinian Territories' Economic Update — April 2022



2.3. AGRICULTURAL SECTOR:

2.3.1. AGRICULTURAL HOLDINGS:

The importance of the agricultural sector in Palestine stems from the contribution of its production to the food security of Palestinian households, in addition to the creation of job opportunities in the Palestinian local market.

Data from the agricultural census published by the Palestinian Central Bureau of Statistics (PCBS) for 2020/2021 indicates that the number of agricultural holdings in 2020/2021 reached 140,568 (82.4% in the West Bank and 17.6% in Gaza Strip), compared to 111,310 holdings in 2009/2010 (an increase of 29,258 holdings). As for the number of holdings by type of holding, data showed that the most common type of agricultural holding was plant holdings with a number of 103,143 holdings (73.4% of the total number of agricultural holdings in Palestine), while there were 19,909 animal holdings (14.2% of the total number of agricultural holdings in Palestine), whereas 17,516 holdings were mixed holdings (12.4%) during the agricultural year 2020/2021 (Figure 1).¹⁷

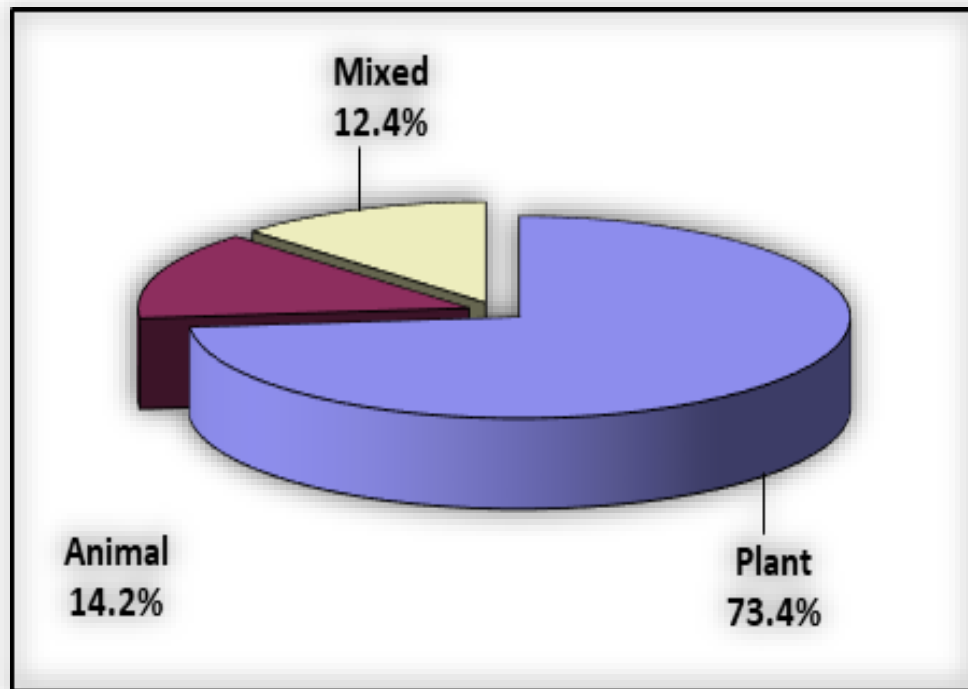


Figure. 1. Percentage Distribution of Agricultural Holdings in Palestine by Type of Holding, 2020/2021

¹⁷ PCBS and MoA (2021): Joint Press Release on the Preliminary Results of Agriculture Census-2021, the Number of Agricultural Holdings in Palestine by Type of Holding and Governorate-2020/2021.



2.3.2 THE AGRICULTURAL AND CULTIVATED AREAS:

The latest agricultural census published by the Ministry of Agriculture and PCBS in 2010 estimated that the total area of agricultural land was 1,207,061 dunum (91.6% or 1,694,554 in the West Bank, and 8.4% in Gaza Strip).

The agricultural census of 2008 estimated that the area of agricultural land was 1,854,000 dunum (91.4% in the West Bank, and 8.4% in Gaza Strip). But, the land-use analysis of satellite images – conducted by ARIJ in 2010 – indicated that the area of agricultural land in the West Bank was 2,150,800 dunum. This variation in estimates is due to the use of effective agricultural land to build the agricultural census of 2010, i.e. agricultural land whose area exceeds 1 dunum for rainfed agriculture and 0.5 dunum for irrigated agriculture (Figure 2).¹⁸

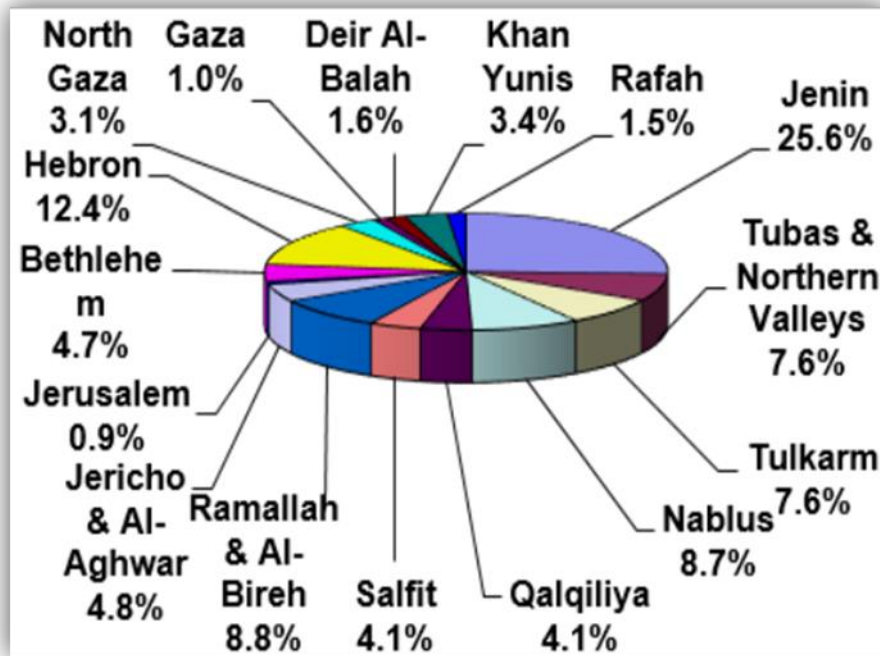


Figure.2. Percentage Distribution of Cultivated Area in Palestine by Governorate, 2020/2021

The total cultivated area in Palestine during the agricultural year of 2020/2021 reached 1,096.3 thousand dunums (89.4% in the West Bank and 10.6% in Gaza Strip), compared to 911.6 thousand dunums in 2010, with an increase of 184.7 dunums. At the level of governorates, the highest percentage of cultivated areas during 2021 was in Jenin Governorate with a percentage of 25.6%,

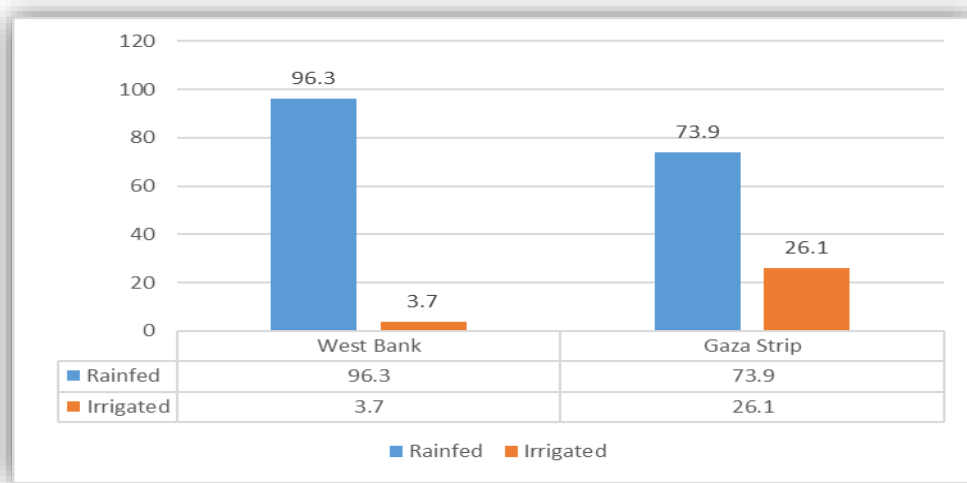
¹⁸ PCBS (2021): Cultivated Area of Horticulture Trees, Vegetables and Field Crops in Palestine by Governorate, 2010/2011.

while the lowest percentage of cultivated area was in Jerusalem with a percentage of 0.9% (10.3 thousand dunums).

The following are the most important results of the Agriculture Census, 2021:

- 94% of the total area of agricultural holdings are cultivated area
- 19% of the total area of Palestine are cultivated area
- 26% of Cultivated Area of Horticulture Trees,
- Vegetables and Field Crops are in Jenin Governorate
- 85% of the total area cultivated with horticultural trees are cultivated with olive trees
- 12% of the total area cultivated with vegetables are cultivated with potato crops
- 47% of the total area cultivated with field crops are cultivated with wheat
- About 30% of cattle in Palestine are raised in Hebron Governorate
- About 26% of sheep in Palestine are raised in Hebron Governorate
- About 21% of goats in Palestine are raised in Bethlehem Governorate
- About 19% of beehives in Palestine are raised in Jenin Governorate
- About 20% of broilers in Palestine are raised in Jenin Governorate
- 29% of layers in Palestine are raised in Hebron Governorate
- 92% of Agricultural holders are males
- 73% of Agricultural holdings are plant holdings.¹⁹

According to the Percentage Distribution for Area of Field Crops in Palestine by Type of Irrigation and Governorate, 2010/2011: The total area of rainfed field crops in West Bank is 96.3% while 73.9% in Gaza Strip, and the total area of irrigated field crops in West Bank is 3.7% while 26.1% in Gaza Strip (Fig.3).



¹⁹ PCBS and MoA (2021): Joint Press Release on the Preliminary Results of Agriculture Census-2021, Cultivated area in Palestine during the agricultural year of 2020/2021.

Figure.3. Percentage Distribution for Area of Field Crops in Palestine by Type of Irrigation and Governorate, 2010/2011²⁰

According to the percentage distribution of vegetables 17.4% of cultivated area of open rainfed of vegetables in West bank and 2.7% of cultivated area of open rainfed of vegetables in Gaza Strip Are Open Rainfed, 62.9% of cultivated area of open irrigated vegetables in West Bank and 76.3% of cultivated area of open irrigated vegetables in Gaza Strip Are Open Irrigated, 19.7% cultivated area of protected vegetables in West Bank and 21 cultivated area of protected vegetables in Gaza Strip Are Protected (Fig.4).

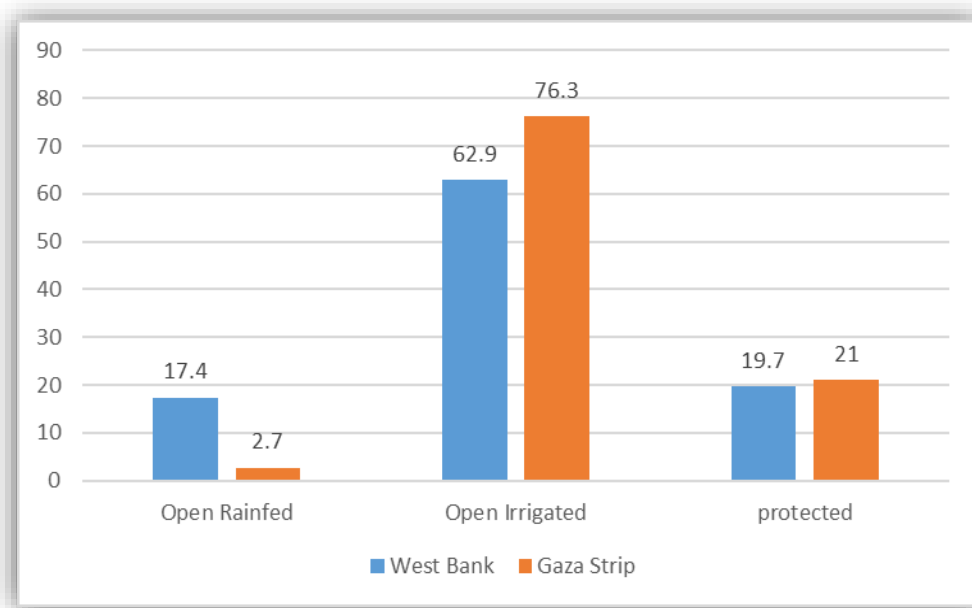


Figure.4. Percentage Distribution for Area of Vegetables in Palestine by Type of Irrigation and Governorate, 2010/2011²¹

According to the Percentage Distribution for Area of Horticulture Trees in Palestine by Type of Irrigation and Region, as in 01/10/2011:

- 96.1% of cultivated area of horticulture in West bank is rainfed area while 9.5% of cultivated area of horticulture in Gaza Strip is rainfed area,
- 3.9% of cultivated area of horticulture in West bank is irrigated area while 90.5% of cultivated area of horticulture in Gaza Strip is irrigated area,

²⁰ PCBS: 2010/2011: Percentage Distribution for Area of Field Crops in Palestine by Type of Irrigation and Governorate, 2010/2011

²¹ PCBS, 2010/2011: Percentage Distribution for Area of Vegetables in Palestine by Type of Irrigation and Governorate, 2010/2011



- 3.9% of cultivated area of horticulture in West bank is irrigated area while 90.5% of cultivated area of horticulture in Gaza Strip is irrigated area (Fig.5).

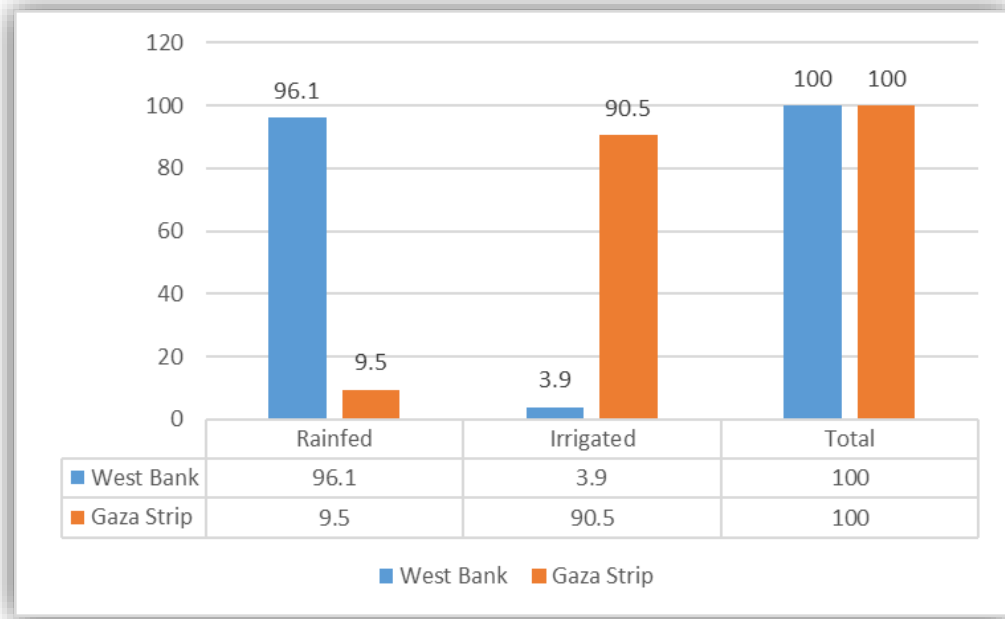


Fig.5. Percentage Distribution for Area of Horticulture Trees in Palestine by Type of Irrigation and Region, As in 01/10/2011

Furthermore, the agricultural sector is an important driver in the Palestinian economy since it creates job opportunities in the local Palestinian market. As of 2019, this sector was employing 12.6% of the Palestinian labor force, were 14.5% in west bank and 6.95% in Gaza strip of which 53% were women.²²

2.4. CHALLENGES AND PROBLEMS FACES THE AGRICULTURAL SECTOR:

The agricultural sector in Palestine faces many obstacles and problems, and the Israeli occupation is at the forefront of those responsible for these obstacles and problems, in addition to the problems and self-obstacles, which can be reviewed as follows²³:

- 1) Seizing lands, building settlements and camps, and constructing bypass roads.
- 2) Declare vast areas closed military zones; Others are for military training, and access to them and the exercise of economic activities are prohibited.
- 3) Declaring vast areas as nature reserves in preparation for their confiscation and settlement.

²² PCBS: (2020): Labor Force Survey Data base-2019.

²³ WAFA, 2022: Palestinian News & Information Agency: The reality of the agricultural sector in Palestine-2022



- 4) The construction of the wall and the resulting difficulties, isolating agricultural lands, and destroying agriculture and infrastructure.
- 5) Not enabling the Palestinian people to manage their natural resources and continuously looting them, especially water, which represents the spirit of the agricultural sector.
- 6) The spread of military checkpoints and control of the crossings impeded and limited the freedom of movement of goods and services between the Palestinian areas on the one hand, and between them and the outside world on the other hand; In addition to restrictions on foreign trade; This led to a rise in the cost of agricultural production and marketing, and a decrease in local market prices.
- 7) The continuous invasions and wars that destroyed and polluted large areas and agricultural crops - inflicted heavy human and material losses on farmers; In addition to the occupation's policy of uprooting fruit trees, stealing crops, and bulldozing agricultural land on an almost daily basis.
- 8) Work to compete with Palestinian agricultural products by flooding Palestinian markets with their products, including products from settlements; to tighten the noose around the Palestinian farmer and push him to abandon his land; Consequently, the percentage of workers in the agricultural sector decreased.
- 9) Preventing shepherds from accessing natural pastures, continuing to chase and attack them, demolishing their homes and barns, deporting them, confiscating their equipment and herds, and imposing heavy fines on them.
- 10) Non-compliance by the occupying power with the agreements concluded with the Palestinians; it imposes by force unfixed limits to the catch; Its warships chase the fishermen, shoot them, arrest them, and confiscate their boats, which often lack spare parts due to the siege imposed on the Gaza Strip; In addition to the difficulty of marketing fish by preventing its access to the markets of the northern governorates or markets abroad²⁴.

Self-obstacles and problems:

In addition to the obstacles and problems caused by the Israeli occupation, the Palestinian agricultural sector faces internal challenges, the most prominent of which can be reviewed as follows:

A. Problems related to natural and environmental resources:

1. Limited water and agricultural land, and increased competition from other sectors.
2. Soil erosion, deterioration of its properties and low productivity.
3. Improper use of chemicals, especially pesticides.
4. Deterioration of the quality of water used in irrigation due to excessive pumping.
5. Deterioration of vegetation cover and habitats of plant and animal wildlife as a result of overgrazing.
6. Urban sprawl and random expansion of construction at the expense of agricultural land.

²⁴ WAFA, 2022: Palestinian News & Information Agency: The reality of the agricultural sector in Palestine-2022



B. Technical problems and obstacles:

1. Weak agricultural research infrastructure, insufficient rehabilitation of experimental stations, and severe shortage of laboratories, equipment and necessary devices; In addition to the shortage of researchers and trainers to cover the required agricultural fields.
2. Lack of capabilities of the extension, plant protection and veterinary services.
3. Weak infrastructure for the agricultural marketing sector.
4. Weakness of agricultural and food manufacturing activities.
5. Lack of data and information available on agriculture and sometimes conflicting.
6. Weak agricultural technical capabilities.

C. Problems and obstacles of a social and economic nature:

- 1- Small and dispersed agricultural holdings and common ownership; This reduces its productivity.
- 2- Low return from agriculture and high risk factor; This led to the reluctance of many to work in this sector, in addition to the lack of agricultural investments.
- 3- The lack of a system for agricultural and rural finance.
- 4- Weakness of team and cooperative work.
- 5- The tendency of many citizens to work at home; As a result of the large material difference of their work compared to agricultural work.

D. Institutional and legislative problems and obstacles:

- 1- Inconsistency of agricultural laws and legislation.
- 2- Weak direct funding by official institutions, and limited compensation to farmers affected by the occupation or natural factors; Because of the financial crises that the Palestinian government suffers from.
- 3- Inconsistency and duplication between the relevant institutions in the agricultural sector, and their weak capabilities²⁵.

²⁵ WAFA, 2022: Palestinian News & Information Agency: The reality of the agricultural sector in Palestine-2022



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CHAPTER THREE:

AN OVERVIEW ON

PALESTINIAN

LABOUR FORCE

MARKET



CHAPTER THREE: LABOUR FORCE MARKET:

3.1. EMPLOYEMENT RATE:

According to Palestinian Central Bureau of Statistics survey ²⁶, the number of employed persons increased by 16 thousand in the 1st quarter of 2022: The number of employed persons (excluding workers abroad) increased from about 1.092 million in the 4th quarter of 2021 to about 1.108 million in the 1st quarter of 2022, by 1%. This increase came as a result of the increase in the number of employed persons in the West Bank by 2% compared to the 4th quarter of 2021, in addition to the increase in the number of employed persons in Gaza Strip by about 1% in the same period.

The largest increase was reported among wage employees, as this number increased by 44 thousand employed persons in the first quarter of 2022 compared to the fourth quarter 2021, while the number of self-employed persons (employers and self-employed) decreased by 25 thousand and the number of the unpaid family workers decreased by 2 thousand. A decrease in the number of employed persons in the local market between the 4th quarter of 2021 and the 1st quarter of 2022

The number of employed persons in the local market decreased from 939 thousand employed persons in the 4th quarter of 2021 to 904 thousand employed persons in the 1st quarter of 2022, it decreased by 5% in the West Bank while it remained at the same level in Gaza Strip during the same period.

The results showed that most of the activities witnessed a decrease in the number of employed persons during the 1st quarter of 2022 and the number of employed persons in the activities of constructions decreased the most, followed by transports, storage commerce, then the hotels and restaurant activities, followed by other services, and **agriculture**, and lastly the manufacturing industry and mining activities.

An increase in the number of employed persons in Israel and Israeli settlements by 51 thousand between the 4th quarter of 2021 and the 1st quarter of 2022: The number of employed persons in Israel and Israeli settlements reached about 204 thousand employed persons in the 1st quarter of 2022 compared to about 153 thousand employed persons in the 4th quarter of 2021.

3.2. THE AVERAGE DAILY WAGE:

The average daily wage for the wage employees in Israel and Israeli settlements was about 268 NIS in the 1st quarter of 2022 compared to 269 NIS in the 4th quarter of 2021.

²⁶ PCBS: (2022): Press Release on the Results of the Labour Force Survey, First Quarter (January – March, 2022) Round

64% of wage employees in the private sector were hired without any employment contract, and 23% of wage employees receive a contribution to a pension fund/end of service compensation. Moreover, 46% of wage female employees receive a paid maternity leave.

43% of wage employees in the private sector receive monthly wage less than the minimum wage in Palestine

The percentage of wage employees in the private sector who receive a monthly wage less than the minimum wage in the West Bank was 22% in the 1st quarter of 2022 (about 60 thousand employees). The number of wage employees in the private sector who receive a monthly wage less than the minimum wage in Gaza Strip was about 111 thousand of about 88% during the same period.

It is worth mentioning that the Council of Ministers issued a decree stating the minimum wage to be (1,880 NIS) as of the beginning of 2022. The monthly minimum wage in Gaza Strip was (676 NIS) compared with (1,382 NIS) in the West Bank.

3.3. THE UNEMPLOYMENT RATE:

The unemployment rate among labour force participants (15 years and above) in the 1st quarter of 2022 was about 25%, while the total underutilization of labour was about 33%, according to the revised International Labour Organization Standards (ICLS-19th).

There is still a large disparity in the unemployment rate between the West Bank and Gaza Strip, as this rate reached 47% in Gaza Strip compared to 14% in the West Bank. The unemployment rate by sex reached 21% among males compared to 41% among females (see Fig 6).

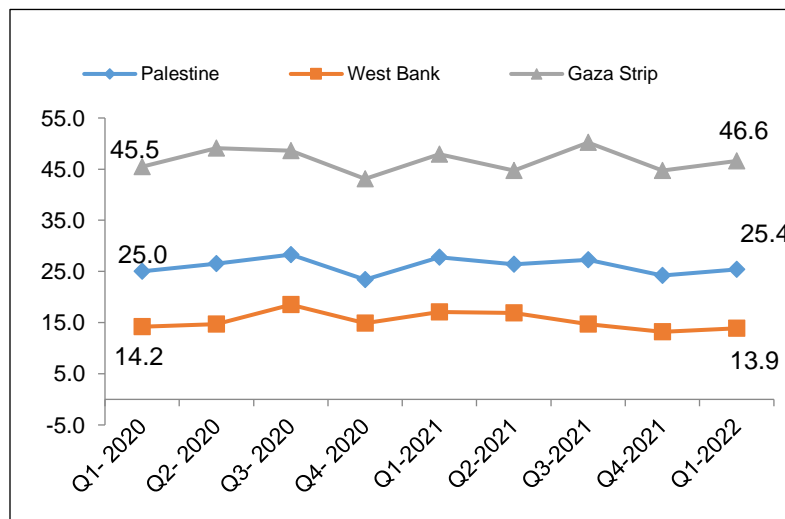


Fig. 6. Unemployment Rate (ICLS 19th) by Region, Q1- 2020 – Q1-2022



The number of unemployed persons reached 378 thousand in the 1st quarter of 2022; of which 244 thousand persons in Gaza Strip and 134 thousand persons in the West Bank.

The participation rate in the labour force increased to 45% in the 1st quarter of 2022 compared with 44% in the 4th quarter of 2021. Also, data indicated that this percentage increased from 46% to 47% in the West Bank, and increased from 40% to 41% in Gaza Strip during the same period. The participation rate in the labour force among males was 71% in the 1st quarter of 2022 compared to 70% in the 4th quarter of 2021, whereas the participation rate among females increased from 18% to 19% during the same period. Within the same context, the total underutilization reached 526 thousand persons, as this number includes 60 thousand discouraged job seekers and 33 thousand in time-related underemployment.

3.4. YOUTH AND WOMEN UNEMPLOYMENT RATE:

Unemployment rate was the highest among youth graduates: About 48% is the unemployment rate of youth graduates (19-29) years who hold Associate Diploma Certificate and higher; 27% in the West Bank compared to 75% in Gaza Strip.

Hence, data for 2020 indicate that out of every 100 youth males and females aged 18-29 years, there are 18 youth who obtained a bachelor's degree or higher. Perhaps youth females are the most fortunate, as 23 out of every 100 youth females obtained a bachelor's degree or higher compared to 13 youth males. On the other hand, unemployment rates constitute the biggest challenge for the youth, as these rates reached 64% among females and 33% among males, and were the highest in Gaza Strip compared to the West Bank (67% and 24% respectively). Perhaps the highest rates of unemployment among the youth aged 18-29 years were recorded among graduates, including those holding an intermediate diploma or higher (54%) with a clear difference between youth males and females, 39% and 69% respectively.

3.5. THE NUMBER OF WORKERS IN THE AGRICULTURAL SECTOR:

3.5.1: THE NUMBER OF WORKERS:

According to the report of the Palestinian Central Bureau of Statistics "Performance of the Palestinian Economy, 2021" issued in May 2022:

- The number of workers in the agricultural sector in 2021 reached about 59,600, of whom 44,000 are from the West Bank, and 15,600 are from the Gaza Strip;
- While the number of workers in the agricultural sector in 2019 was about 53,300, of whom 40,900 were from the West Bank, and 12,400 were from the Gaza Strip, (See the table 4):

Table.4.: The number of workers in the agricultural sector in 2019 to 2021 in West Bank, and Gaza Strip			
Year	West Bank	Gaza Strip	Total
2021	44,000	15,600	59,600
2020	40,600	12,800	53,400
2019	40,900	12,400	53,300



3.5.2. THE AVERAGE DAILY WAGE:

Average real daily wage: According to the report of the Palestinian Central Bureau of Statistics “The Performance of the Palestinian Economy, 2020” issued in May 2022:

- The average real daily wage in the agricultural sector in 2021 amounted to 53.7 shekels, at a rate of 86.5 shekels per worker in the West Bank and 20.9 shekels per worker. in the Gaza Strip
- The average real daily wage in the agricultural sector in 2019 amounted to 57.35 shekels, at a rate of 105 shekels per worker in the West Bank and 21.1 shekels per worker. in the Gaza Strip, (see Table 5).

Table.5.: The average real daily wage in the agricultural sector in 2019 to 2021 in the West Bank and Gaza Strip.			
Year	West Bank	Gaza Strip	Average
2021	86.5	20.9	53.7
2020	105	20.5	62.75
2019	93.6	21.1	57.35

According to the report of the Palestinian Central Bureau of Statistics “The Performance of the Palestinian Economy, 2020” – the Percentage of Employed Individuals in Agriculture from the Total Employed Individuals in All Economic Activities in Palestine by Region and Sex, 2018-2019 (See Fig 7).

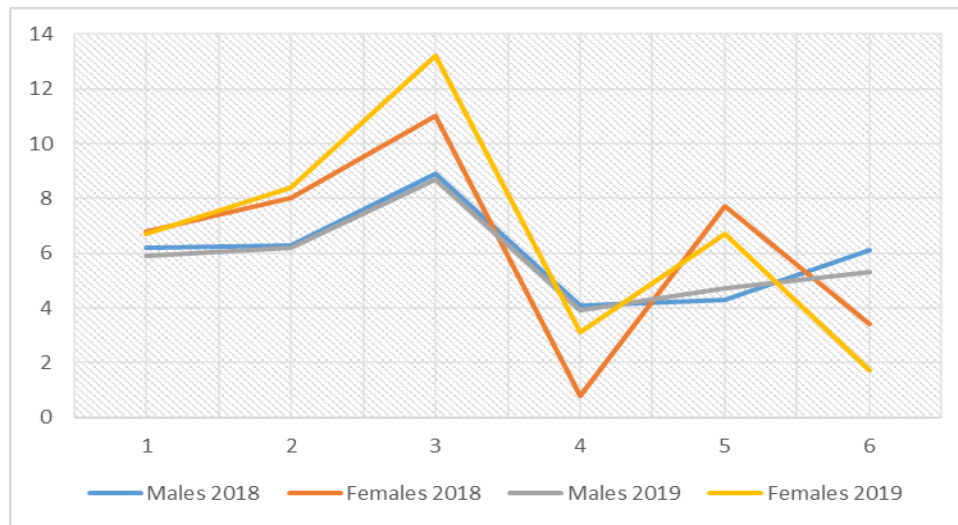


Fig.7. Percentage of Employed Individuals in Agriculture from the Total Employed Individuals in All Economic Activities in Palestine by Region and Sex, 2018-2019



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CHAPTER FOUR:

AN OVERVIEW ON THE AGRICULTURAL VOCATIONAL EDUCATION AND TRAINING (ATVET)



CHAPTER FOUR: THE AGRICULTURAL TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING

4.1. INTRODUCTION:

Even though migration and urbanization have increased, the majority of the world's poor still live in rural areas. For the 70 percent of the world's poor, agriculture is the main source of income and employment²⁷. ATVET was neglected by governments as well as by donors in the 1980/90ies, and only re-gained momentum and a more innovative character in the past decade. The new development agenda of the Sustainable Development Goals and the Federal Council's Message on Switzerland's International Cooperation 2013-2016 emphasize the importance of agricultural skills to enhance productivity and sustainability along value chains to ensure the food security of millions of people in developing countries. A shift is taking place in the required agricultural skills and competencies along the food value chain from traditional courses to those relating to marketing, distribution, processing, packaging and regulation.

Globally, agriculture is a greying sector: Farmers are getting older – even in countries with a very young population. In Africa, the average age of farmers is also about 60, despite the fact that 60 per cent of Africa's population is under 24 years of age²⁸. This is mainly due to the out-migration of many young people in search of better opportunities for work and education in cities or abroad. This trend however also harbours opportunities: migrants have better access to skills and information, and return to their villages seasonally or after a few years with new knowledge and ideas, and often also with savings. Self-employment is a viable alternative to the “traditional” farming work, and ATVET can support this target group with entrepreneurship training and facilitation of access to financial services.

The data of the Palestinian Central Bureau of Statistics-2022 indicates an increase in the percentage of young people in the Palestinian society, as the percentage of youth (18-29 years) in Palestine reached 22% (1.17 million) of the total population in mid-2022: 22.2% in the West Bank and 21.5% in the Gaza Strip. While the sex ratio was 105 males for every 100 females.

This is in addition to the high rates of young people with higher degrees and high unemployment rates, as data in 2021 indicate that out of every 100 young men and women between the ages of 18 and 29, 18 have a bachelor's degree or higher. Young women are perhaps the luckiest, with 23 out of 100 young women earning a bachelor's degree or higher compared to 13 young men.

On the other hand, unemployment rates constitute the greatest challenge for young people, as these rates reached 62% among females and 33% among males, and were highest in the Gaza Strip compared to the West Bank (65% and 24%, respectively). It also recorded the highest unemployment rates among youth 18-29 years among graduates, including those with an

²⁷ The World Bank, 2015

²⁸ FAO, 2014: United Nation for food and Agriculture-2014



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intermediate diploma and above (53%), with a clear difference between male and female youth, 39% for males and 66% for the category. females.

It was found that about 155 thousand young people work in the informal sector as follows: The number of young people working in the informal sector in 2021 reached 155 thousand workers, of whom 145,200 are males compared to 9800 females.

The percentage of youth working in this sector represents 29% of the total youth employed in Palestine. Knowing that the percentage of young people working in informal work in Palestine (i.e., young people working in the informal sector in addition to paid employees who do not get any labor rights including end of service / retirement, paid annual leave or paid sickness. leave) has reached to 46% of the total working youth; Of them, 53% are males compared to 17% females, 56% in the West Bank and 29% in the Gaza Strip.

It was found that half of the youth (18-29 years) do not work or teach/train, as the percentage of young people (18-29 years) who are not engaged in work or education/training in 2021 was 50% (41% in the West Bank compared to 64% in the Gaza Strip). Gaza). 66% for females and 34% for males.

The data indicate the disappearance of illiteracy among young people, as the illiteracy rate among youth (18-29 years) in Palestine for the year 2021 decreased to about 0.7% (0.8% in the West Bank and 0.6% in the Gaza Strip), while it was 1.1% in 2007 (1.1 % in the West Bank). and 1.2% in the Gaza Strip)²⁹.

There is consensus that ATVET needs to be provided through different educational approaches, i.e. formal, non-formal and informal, to reach the diverse target groups and to make the skills provision more innovative and up-to-date. The types of skills required has changed: ATVET programmes must impart a wide skillset encompassing technical, soft, entrepreneurial, and analytical skills.

Skills development is central to improving productivity. In turn, productivity is an important source of improved living standards and growth. Other critical factors include macroeconomic policies to maximize opportunities for pro-poor employment growth, an enabling environment for sustainable enterprise development, social dialogue and fundamental investments in basic education, health and physical infrastructure.

Effective skills development systems which connect education to technical training, technical training to labor market entry and lifelong learning can help countries sustain productivity growth

²⁹ PCBS (2022): [Palestinian youth between the hammer of the occupation and the anvil of the difficult economic conditions](#)



and translate that growth into more and better jobs and finally an explanation of how a coherent skills development policy serves both short-term adjustment and long-term development goals³⁰.

Agricultural education in Palestine is predominantly taught and trained in a bachelor's degree program in agricultural sciences with sub-foci on crop production, animal production, and food processing. The four-year college education has never been considered as professional or technical training that qualifies graduates to directly intervene in the production processes on the ground at all levels - neither by educational institutions, nor by students, nor by agricultural or agro-industrial production units.

In recent years, the agricultural diploma was introduced by a college of applied sciences to train graduates to become assistants in crop production. This qualification was much closer to TVET training and market needs than the full four-year qualification offered by Palestinian colleges that offers vocational and technical education.

The study confirms the need for an effective agricultural vocational education and training (ATVET) system that provides links between education, technical training, labor market entry, and lifelong learning to create sustainable productivity growth and better-paying jobs in the agricultural sector specially in the animal and cattle industry.

Our study found that while food processing is the only sub-specialization/sector considered part of TVET education in Palestine, other agricultural sub-sectors such as crop and livestock production have an increased need for TVET graduates with skills that meet market and employer demands. One of the biggest barriers to employing agricultural science graduates is the mismatch between the needs of farms and the skills of graduates. In most cases, employers (who may be uneducated farmers) have more technical knowledge than most graduates, further deepening the gap between graduates and target markets for employment.

The situation of TVET in Palestine, which is not highly regarded in the way that general education is, can be summarized as follows:

1. Palestine has a clear vision for standardizing its TVET sector. Strong commitment to reforms and good cooperation exist between the main stakeholders, in particular the Ministry of Education and Higher Education and the Ministry of Labour.
2. Two TVET strategy objectives have not yet been addressed: the establishment of a strategic framework of governance, and the proper coordination of all development activities implemented in the TVET sector by the donor community.
3. A priority of the TVET strategy is to make TVET relevant to the labour market: historically this has not been the case, but things are improving due to several new initiatives.
4. In terms of internal efficiency the main problems are the low cost efficiency of the system and its little relevance to the needs of the labour market. Little progress has been made, and underlying causes include the limited autonomy of schools and the overall rigidity of the system. Notably, the TVET strategy provides for a reform of the rules concerning the management of TVET

³⁰ International Labor Office Geneva: (2008): Skills for improved productivity, employment growth and development International Labor Conference, 97th Session, 2008.



institutions.

5. The private sector is involved in the various developments. Its challenge is to take a leading role in delivering labour market needs analysis to support the reform and continuous updating of TVET provision. Social partners such as the Palestinian Federation of Industries, the Federation of Palestinian Chambers of Commerce, Industry and Agriculture and the Palestinian General Federation of Trade Unions are not yet in a position to play this leading role. However, they are increasingly interested in and aware of what they can do. They are also beginning to develop the necessary capacities to take on such a role. Quality is not clearly defined.

6. The main issues that negatively affect governance of the TVET system, which remains weak despite the high volume of reforms being implemented in the sector, are: the fragmentation of the system, the absence of a unified leadership; and the lack of financial and human resources. In these respects, there is a strong need for both improving the financial resources invested in the sector and human resource capacity building if reform is to be effective³¹.

4.2 RESPONSIBLE MINISTRIES/BODIES FOR TVET

1. The TVET Higher Council (inter-ministerial body) is responsible for coordinating TVET
2. The Ministry of Labor is responsible for providing vocational training centers and setting out legislation and strategy
3. The Ministry of Education and Higher Education is responsible for secondary vocational education, establishing a national qualification framework and a standard process of curriculum development, implementing human resources development plan, and managing the national training fund
4. Local Employment and Training councils are responsible for coordinating local partnerships and providing training for entrepreneurs and businesses³²

4.3 TVET STRENGTHS IN PALESTINE

- Publication of the national TVET Strategy after the involvement of all stakeholders in the drafting committees is a sound achievement
- Improving employment opportunities for the TVET graduates along with growing need for qualified and professional graduates
- The national will to develop the TVET sector in Palestine
- National-level expertise, on both supply and demand sides. Team work results in generating good ideas that reflect positively on the TVET governance
- Cooperation of some labor market actors with TVET providers
- Availability of various established TVET providers, and a good geographical distribution of learning institutions and vocational training
- Financial support from the donors
- Availability of a unified database for TVET

³¹ European Training Foundation (ETF), 2014: Mapping Vocational Education and Training Governance in Palestine

³² Palestine- Vocational Training, <https://portal.cor.europa.eu/divisionpowers/Pages/Palestine-Vocational-training.aspx>



- The development of theoretical and practical curricula in the Ministry of labor³³

4.4 TVET WEAKNESSES IN PALESTINE

- TVET governance is fragmented, as there is a lack of coordination between stakeholders, and meanwhile diverse TVET systems are operational, multiple agencies have a role but many stakeholders lack awareness of the importance of good TVET governance. The system lacks unified management and the non-operation of the Higher Council for TVET is a sign of this weakness. TVET provision is often under-utilized, and repeated but unsuccessful attempts at reform lead to frustration
- Weakness in the implementation of policies and strategies. Absence of cooperation mechanisms and incentives to engage private sector stakeholders. Few TVET teachers and managers are trained in needs-based curriculum development
- Obstacles include the variety of uncoordinated ministries responsible for the TVET sector (which leads to multiple rules and regulations), the separation between the vocational education and technical education
- A lack of financial resources³⁴
- The weak national Palestinian economy leads to structural problems and instability in the labor market as well as limited employment opportunities
- There is a lack of labor market information systems, curriculum studies and evaluations to support TVET governance
- TVET has a low social image. There is a lack of awareness of the importance of TVET, weak incentives and guidance, a lack of relevant curricula, programs, learning environments, equipment and materials
- Some of the existing laws are bureaucratic and inefficient
- The limited autonomy of TVET providers³⁵

4.5 THREATS TVET ENCOUNTERS IN PALESTINE

- ✚ Lack of financial resources, risk of unsustainable resources, limited investment in TVET programs, and budget reductions to TVET providers
- ✚ The unstable prevailing political conditions in Palestine, including multiple obstacles created by the Israeli occupation
- ✚ Real engagement of labor market actors in TVET governance is lacking

³³ European Training Foundation (ETF), 2014: Mapping Vocational Education and Training Governance in Palestine

³⁴ European Training Foundation (ETF), 2014: Mapping Vocational Education and Training Governance in Palestine

³⁵ European Training Foundation (ETF), 2014: Mapping Vocational Education and Training Governance in Palestine



- ✚ Reluctance of the youth to enter the TVET sector
- ✚ Weakness of the private sector to absorb TVET graduates
- ✚ Difficulty in selecting properly qualified persons for professional roles, and human resource/capability weaknesses
- ✚ The allocated time for international projects
- ✚ Cultural factors, especially in relation to girls training
- ✚ Lack of appropriate rules and legislations
- ✚ The implementation of the governance system in some governorates and exclusion of others³⁶

TVET Stakeholders in Palestine refer to the local community, including students, parents-teacher's association (PTA), education workers, administrative heads, elders or chiefs who are informal local community heads, the TVET Higher Council, the Ministry of Labor, the Ministry of Education and Higher Education, Local Employment and Training councils, Hisham Hijjawi College of Technology, Young Men Christian Association, Youth Clubs & CBOs, and GIZ, career consultants

4.6 POLICY MAKERS³⁷

The main policy makers in Palestine are as in the following table (see Table.6.):

Table.6.: The main policy makers in Palestine				
Organizations	Location	Website	Contact number	Email
Ministry of Social Development (MoSD)	Gaza	www.mosa.gov.ps	(+970) 82829194	mosdgoyps@gmail.com
Ministry of Labor (MoL)	Ramallah	http://www.mol.pna.ps/	02-2982800	info@mol.pna.ps
Ministry of Education and Higher education (MOEHE)	Ramallah	moehe.gov.ps	(+970) 2 2983200	info@moe.edu.ps
TVET Higher Council	Ramallah	A joint body of a group of ministries: the Ministry of Higher Education and Scientific Research and the Ministry of Labour		

³⁶ European Training Foundation (ETF), 2014: Mapping Vocational Education and Training Governance in Palestine

³⁷ PARC 2021: Labor Market Study of Agriculture sector in Jordan valley



4.7 NGO STAKEHOLDERS³⁸

The main NGOs stakeholders in Palestine are as in the following table (see table.7.):

Table.7.: The main NGOs stakeholders in Palestine				
<u>NGOs</u>	Location	Website	Contact number	Email
GIZ	Ramallah- Bireh	www.giz.de	972 2 2400740	giz-pal@giz.de
UNRWA	Jerusalem- Sheikh Jarrah	www.unrwa.org	(+ 972) 2 589 1618 (+ 972) 542 168 723 (+ 971) 562 940 664	k.abu-khalaf@unrwa.org
Young Men Christian Association (YMCA)	Bait Sahour - Bethlehem	www.ej-ymca.org	2772185 / 2772713 (2) 970	ymcarp@ej-ymca.org
Enable	Jerusalem- Sheikh Jarrah	https://www.enabel.be/ content/enabel- palestinian-territory	(+972) 25815915	representation.palestine@enabel.be
Swiss Cooperatio n Office Gaza and West Bank	Jerusalem	https://www.eda.admin .ch/countries/occupied- palestinian- territory/en/home/repre sentations/swiss- cooperation-office- gaza-&-west- bank.html	(+972) 25452400	gazawestbank@eda.admin.ch

³⁸ PARC 2021: Labor Market Study of Agriculture sector in Jordan valley



ATVET in Palestine can be categorized as formal, non-formal, or informal:

- Formal ATVET: is offered within the formal education system and leads to a recognized qualification. The learning processes are intentional and systematic.
- Non-formal TVET: offered by education and training providers, businesses, social partnership organizations, and non-profits outside the government-initiated education and training system. The learning processes are intentional and systematic and can lead to a recognized qualification.
- Informal learning: non-structured, non-intentional learning processes that take place in the workplace or through other everyday activities. They do not usually lead to certification and recognition.

There is compelling and convincing evidence to support the study's finding that agricultural markets need various ATVET skills that are lacking or scarce. If graduates acquire these skills, they can significantly improve their employment opportunities while positively impacting the profitability, competitiveness, and quality of the agricultural sector's production and operations. ATVET has the potential to be demand-driven and responsive to the current needs of employers and employees in the changing field of agriculture; the combination of agricultural value chain growth and workforce development will provide numerous opportunities.

This study suggests that a much broader range of ATVET skills is needed to transform the agricultural sector in Palestine. The relevant occupations can be divided into three categories:

- ✚ **Core occupations:** These include those directly related to the agricultural value chain. These may vary in their degree of specialization, as innovations and the introduction of new technologies may require highly specialized and skilled labor beyond the production level (e.g., post-harvest chain including processing and storage equipment, logistics, retail).
- ✚ **Supporting occupations:** are needed to ensure the functionality of core occupations at different stages of the agricultural value chain.
- ✚ **Cross-sectoral occupations:** are not directly related to the agricultural sector, but are needed to ensure the functionality of the entire value chain.

ATVET in Palestine begins in the basic classes, where technology includes two units specialized in agriculture in the fifth and seventh classes. After the tenth class, those who wish to learn agricultural can enroll in either the Al-Aroub School in Hebron or the Beit Hanoun School in Gaza³⁹.

³⁹ Ministry of Higher Education, 2006: Vocational education/ It is one of the education tracks that aims to prepare skilled professionals and the duration of study in it is two years after the tenth grade or three years after the ninth grade, after which the student obtains the vocational secondary certificate.



With the beginning of the 2018/2019 school year, agricultural education branches were opened in Araba / Jenin, Burin School / Nablus and Etihad Safa / Ramallah. The students can attend agricultural colleges for university education or work as a technician. As for the educational opportunities after school, which is called technical and vocational education, they are available in a limited way at Al-Hijjawi College of An-Najah University in Nablus, Palestine Technical University in Al-Aroub and Khadoorie, and recently (2018) Hebron University started a diploma program in agriculture with specializations in plant production and animal production. As for Al-Quds Open University, it has completed preparations for a similar program at the beginning of the second semester 2019 and it will include training in protected agriculture, maintenance of irrigation networks and agricultural machinery.

As for the Gaza Strip, the opportunity for those wishing to be agricultural technicians is available at the University College of Applied Sciences. While university education is available in five universities that graduate with a bachelor's degree in agricultural sciences, these universities are Al-Quds Open University⁴⁰, An-Najah National University⁴¹, Palestine Technical University (Al-Khadouri and Al-Aroub)⁴², and Hebron University⁴³, Al-Azhar university in Gaza⁴⁴. These programs include the basic specializations: Plant production and prevention, and animal production. Nutrition, food manufacturing, sustainable development, and recently the Palestine Technical University started a biotechnology program⁴⁵.

The following tables explain: The programs, number of majors and degrees awarded, and geographical distribution of faculties of agriculture in national universities (Table. 8.) and Data Related to Training Infrastructure and Practical Applications (Table.9.). At Najah National University as an example there are a good training infrastructures includes 11 laboratories as follows:

- 1 - Nutrition and Food Processing Laboratory.
- 2- Virus and Immunology Laboratory.
- 3- Scientific research laboratory and tissue preparation unit.
- 4- Anatomy and histology laboratory.
- 5- Tissue culture laboratory.
- 6- Laboratory of Medicines, Toxicology and Chemistry.
- 7- Feed and milk health laboratory.
- 8- Plant Protection Laboratory.
- 9- Parasitology laboratory.
- 10- Bacteriology Laboratory.
- 11- Plant incubator laboratory.

⁴⁰ Al-Quds Open University: (2022): <https://www.qou.edu/ar/faculties/agri/index.jsp-2022>.

⁴¹ An-Najah National University: (2022): <https://www.najah.edu/ar/academic/undergraduate-programs-2022>

⁴² Palestine Technical University(PTUK): (2022): <https://ptuk.edu.ps/ar/faculties/faculty.php?name=agricultural-science-and-technology-2022>

⁴³ Hebron University (2022) <https://www.hebron.edu/index.php/agri-about/agri-about-2022>

⁴⁴ Al-Azhar university in Gaza: (2022): <http://www.alazhar.edu.ps/arabic/agr/dep4.asp-2022>

⁴⁵ PARC: (2019): A study to develop a vocational training program (Be a professional)-2019



Table.8.: Universities that graduate a bachelor's degree in agricultural sciences			Degree	Geographical Distribution
#	University	specializations	BA	Governorate
1	Al-Quds Open University	Plant production and Protection	5	Hebron, Jenin, Jericho, Ramallah ,Bethlehem
		Rural development		
		Animal Production		
		Food Processing		
		Agricultural Economics and Extension		
2	Hebron University	Plant production and Protection	5	Hebron
		Animal Production and Protection		
		Nutrition and food processing		
3	An-Najah University	Plant production and Protection	4	Nablus & Tulkarem
		Animal Production		
		Food Processing		
		Veterinary Medicine		
4	Palestine Technical University/ Khadoorie	Environment and sustainable agriculture	4	Tulkarem, Ramallah, Hebron
		Horticulture and agricultural extension		
		Food Processing		
		Agricultural Biotechnology		
5	Al Azhar University	Plant production and Protection	4	Gaza
		Livestock and poultry production		
		Food science and technology		
		Veterinary Medicine		

Universities that graduate with a bachelor's degree in agricultural sciences ⁴⁶⁴⁷⁴⁸⁴⁹⁵⁰

Table. 9.: Training Infrastructure and Practical Applications						
#	University	Labs	Research centers or stations	Inspection units or farms	Experimental greenhouses	Total research facilities
1	Al-Quds Open University	6	2	0	2	10
2	Hebron University	7	1	0	5	13
3	An-Najah University	11	2	4	5	22
4	Palestine Technical University/ Khadoorie	7	1	2	7	17
5	Al Azhar University	4	0	1	8	13
Total		35	6	7	27	75

⁴⁶ Al-Quds Open University: (2022): <https://www.qou.edu/ar/faculties/agri/index.jsp-2022>.

⁴⁷ An-Najah National University: (2022): <https://www.najah.edu/ar/academic/undergraduate-programs-2022>

⁴⁸ Palestine Technical University(PTUK): (2022): <https://ptuk.edu.ps/ar/faculties/faculty.php?name=agricultural-science-and-technology-2022>

⁴⁹ Hebron University (2022) <https://www.hebron.edu/index.php/agri-about/agri-about-2022>

⁵⁰ Al-Azhar university in Gaza: (2022): <http://www.alazhar.edu.ps/arabic/agr/dep4.asp-2022>



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CHAPTER FIVE:

THE

AGRICULTURAL

ENGINEERS

IN

PALESTINE



CHAPTER FIVE: THE AGRICULTURAL ENGINEERS IN PALESTINE:

5.1. TERMINOLOGY:

There is a confusion between the concept of agriculture and agricultural engineering, and between the agricultural engineer and the expert in agricultural sciences (Agronomists), so we will present explanations of these concepts so that things will be as clear as possible. As there is no unified concept in most countries, and for this we will first clarify the linguistic meaning and then the figurative or scientific meaning of all these concepts.

Literal or linguistic meanings:

Agriculture: The Latin root of agriculture is Agri, or "field," plus cultura, "cultivation." Cultivating a piece of land, or planting and growing food plants on it, is largely what agriculture means. Raising animals for meat or milk also falls under the category of agriculture. If we didn't have agriculture, we'd all be running around the woods, picking berries and trying to shoot things.

Agronomy: Agron' means management of soil/field and 'nomous' is study, so agronomy is a branch of agriculture dealing with field-crop production and soil management.

Scientific Meaning:

General agriculture: is practice of crop cultivation and animal husbandry for the purpose of food and cash(surplus). Agriculture comprises the entire range of technologies associated with the production of useful products from plants and animals, including soil cultivation crop and livestock management and the activities of processing and marketing.

Agronomy is one of the disciplines that is comprised in Agricultural studies. Agricultural study is divided into different divisions which together completes process of cultivation such as Plant pathology, Entomology, Agronomy, Agricultural economics etc. Agronomy is a part of overall process of agriculture, there's no difference between the two.

While Agronomy is limited to management of land which includes water use efficiency, watershed management, Irrigation methods, etc. Agriculture involves many other processes like soil testing, soil management, Insect pest management etc. besides agronomy.

Agriculture and Agronomy are most commonly used terms in Agriculture Sciences.

Agriculture is defined as the art and science of cultivating land, rearing animals and management of livestock. Agronomy is the science of utilizing plants, animals and soils for food, fuel, feed and fiber is called Agronomy.

Agriculture is a broader subject and agronomy is a part that focuses on commercial aspects, development and practical management



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Agriculture refers to applied sciences of botany including agronomy, horticulture and soil science/chemistry etc. It's also consists of misc. branches like apiculture, entomology etc. In short, these are all biological sciences.

Agricultural Engineering is the application of Electrical, Civil and Mechanical Engineering to the Agricultural sciences. It involves irrigation, environmental sciences, soil and water engineering, soil mechanics and farm machinery etc.

Agricultural Engineering on the other hand deals directly with the application of all the areas of engineering such as Mechanical Electrical, civil, chemical and computer engineering areas to provide solutions to agricultural challenges.

Good examples include, mechanized field trip agriculture where a lot of operations can be done simultaneously where as it would have required hundreds of man-hours or more to carry out similar operations, precision agriculture, which uses GPS and many other sensing devices for precise decision making. I hope this helps

Agricultural Engineer is the one who deals with the Technical and Mechanical Parameters of the Agriculture as he deals with new technologies in Agriculture like Farm implements, Machines, Processes, Post-harvest technologies, Tillage operations, Irrigation, Food Processing, Farm structures and Management, Dairy, Poultry and other livestock feeding units, Energy management, GIS and Remote Sensing and etc.

Agronomist is the one who deals with the Physical and Biological Parameters of Agriculture as he deals with the Soil, Water relations, properties, Seeds and Chemical needs of plants, Plant pathology, pests and management, Plant nutrients and etc.

The main difference between agronomy and agriculture is that agronomy is the science of soil management and crop production, while agriculture is the art and science of producing plants and livestock for food, fiber, and other products. Agronomists work to improve the efficiency of agricultural production through better understanding of soil science and plant nutrition. They also work to develop more sustainable methods of farming that minimize negative environmental impact.

The difference between agriculture and agricultural engineering

Many people often confuse science majors with the difference between fields, and then the name or surname of the graduate after joining the business.

At the global level, in fact, there is no college called agricultural engineering as some think wrongly, but there is a college of agriculture that has several specializations and departments, including agricultural engineering. If, as we have already known; Agricultural or rural engineering is just a department, field or specialization within the College of Agriculture itself, and the title of agricultural engineer is given to those who specialize in this field only.



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As for the rest of the specializations in the college, the graduate is called an agricultural expert. Faculties of agriculture study for 4 years in many countries, and the graduate is called (technician or agricultural expert), while the title of agricultural engineer is awarded only to those who specialize in the field of agricultural machinery (Agricultural Engineering Department). During the first three years in the General Division, in which a student does not differ from another, he receives theoretical lectures, each for one subject, two hours per week, and he studies a theoretical week, and 3 hours for the duration of my work, with the study of some theoretical subjects in which there is no practical. The specialization is in the fourth and fifth year.

With regard to the number of credit hours for obtaining a bachelor's degree in most international universities, it does not exceed 120 credit hours with 4 years duration, as an example of this is the Canadian University (University of Manitoba)⁵¹, the American University (PURDUE⁵²) and others. If the number of credit hours reaches 150 or a little more, the **higher diploma** degree is awarded in some countries, the such as eastern countries.

As for universities in Arab countries, the number of hours may reach 150 credit hours, such as the **University of Jordan**⁵³, and the duration of study is five years. In Egypt, 140 credit hours, such as **Ain Shams University**⁵⁴. In Syria, the study period varies from 4-5 years, and thus the number of credit hours.

Locally, the number of credit hours' ranges between 138-152 credit hours, and here lies the difference in approving the title of agricultural engineer or expert in agricultural sciences, while some consider that the engineer is the one who graduated and completed approximately 150 credit hours, and without that he is not considered an agricultural engineer.

The most prominent areas in the Department of Agricultural Engineering:

- I. Tractors and Agricultural Machinery Engineering
- II. Irrigation and drainage engineering and irrigation network design
- III. Engineering of agricultural buildings and agricultural facilities (concerning with the design of cow and poultry farms and greenhouses).
- IV. Agro-industrial engineering and food processing
- V. Bio-systems engineering is concerned with designing fish farms based on agricultural engineering and not just engineering or agriculture. home control engineering
- VI. Rural electrical engineering used on farms
- VII. Biotechnology engineering is a very important discipline for its interest in agriculture.

⁵¹ [https://umanitoba.ca/\(CANADA\)](https://umanitoba.ca/(CANADA))

⁵² [https://www.purdue.edu/\(USA\)](https://www.purdue.edu/(USA))

⁵³ [https://agriculture.ju.edu.jo/ar/arabic/Home.aspx\(JORDAN\)](https://agriculture.ju.edu.jo/ar/arabic/Home.aspx(JORDAN))

⁵⁴ <https://www.asu.edu.eg/agr/ar> (EGYPT)



5.2. THE AGRICULTURAL ENGINEER:

Agricultural Engineers are qualified professionals trained to get the most out of the soil, climate, water and plants, and whose main objective is to produce more and better food for society. Their knowledge of the rural environment, the agriculture and livestock farming industry and the Agri-food sector is so important. In addition, Agricultural Engineers are currently the professionals who devote the most time to ensuring the highest possible level of food security in plant-based food production.

An agricultural engineer is that professional person who specializes in applications of various agricultural fields, including agricultural production, natural resource management. Agricultural engineers apply the knowledge and skills of their engineering to solve problems related to continuous agricultural production, perform agricultural design work, design agricultural mechanisms and devices, perform planning tasks, supervise and manage the production of plans as plans Dairy flow-through plants, irrigation and drainage develop methods for soil and water conservation, and agronomists assess environmental impacts, translate research results and apply relevant practices. Some of the characteristics include the electrical system, structural design mechanisms, ecology, food, and agricultural product improvement and processing.

5.3. THE IMPORTANCE OF AGRICULTURAL ENGINEERS TO THE SOCIETY:

The agricultural engineer has an important role in contributing to food security and food sovereignty all over the world. In Palestine, the role of the agricultural engineer is not different from his colleagues in other countries. Therefore, the agricultural engineer must be able to devise an innovative approach to solve the problems facing the agricultural sector and the possibility of developing work plans and developing products. With the sustainable development of his technical and scientific skills and keeping pace with modern technology. An agricultural engineer must also be able to manage and organize his or her own teams of engineers and assistants. In addition to developing appropriate communication skills to communicate with co-workers, farmers and workers.

Considering the current overpopulation issues, we need agriculture to be modern, sustainable, and to adapt to people's demands. Agricultural Engineers are essential to achieve this goal. We need increasingly higher yields, fewer residues, all at a competitive price; this is the equation Agricultural Engineers must solve."

Agricultural Engineers work to feed humanity. The world population keeps growing while resources are increasingly fewer. We must study and apply new techniques that will allow everyone access to food."

5.4. THE ROLE AND TASKS OF AGRICULTURAL ENGINEERS:

An agricultural engineer has a large number of tasks and responsibilities according to different specializations, including:

- Monitoring the different stages of agricultural projects such as drainage, water treatment and irrigation.



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- Providing appropriate solutions to the problems of animal production. Monitoring animal production, poultry and fisheries.
- Diagnosing soil diseases and agricultural pests in laboratories and measuring the quality of sensory and chemical products.
- Design of agricultural tools and implements with the help of computer programs and software
- Test and test new equipment and tools such as sprinklers, harvesting and storage machines, and to ensure their correct performance.
- Agricultural guidance for farmers and agricultural business owners on the proper use of the land for optimal production of products, pest diagnosis and making recommendations for pest prevention.
- Maintenance of agricultural machinery and agricultural machinery.
- Monitoring food products in food factories and proposing solutions to problems facing production.
- Providing a safe and appropriate environment for agricultural work by monitoring and controlling water supply, cooling, heating and ventilation
- Designing and supervising the methods and processes needed to produce, maintain, and process agricultural products
- Responsibility for marketing, sales management, technical support, and market studies.
- Administrative and research work and conducting applied research.
- Assessing the environmental impacts of agricultural production and providing appropriate solutions to reduce the negative effects on the environment

5.5. REGISTERED ENGINEERS ACCORDING TO AGRICULTURAL ENGINEER'S ASSOCIATION IN PALESTINE:

According to the records of the Jordan Agricultural Engineers Association / Jerusalem Branch, the Palestinian Central Bureau of Statistics for the year 2019, the number of registered engineers reached 3073 (see Table.10), as shown in the following figure and distributed as follows:

- 976 Plant production
- 327 Plant protection
- 84 Horticulture
- 55 land reclamation
- 74 Soil sciences
- 33 Agricultural production and mechanization
- 54 Agricultural pests
- 408 Food processing
- 591 Animal production
- 200 General Agricultural specialties
- 271 Other specializations⁵⁵

⁵⁵ PCBS: Registered Agricultural Engineers in Agricultural Engineers Association in Palestine by Specialization and Region, 2019, Source: Agricultural Engineers Association, 2020. Ramallah – Palestine.



Table10.: Registered Agricultural Engineers in Agricultural Engineers Association in Palestine by Specialization and Region, 2019, published in 2020.

Specialization(1)	Palestine	West Bank	North of West Bank	Middle of West Bank	South of West Bank	Gaza Strip
Total	3073	1799	1063	143	593	1274
Plant Production	976	851	511	57	283	125
Animal Breeding	591	388	257	22	109	203
Food Industry	408	182	77	22	83	226
Plant Protection	327	180	88	21	71	147
General Specialization in Agriculture	200	3	3	-	-	197
Horticulture	84	27	11	7	9	57
Soil Science	74	54	23	7	24	20
Land Reclamation	55	8	5	-	3	47
Agricultural Pests	54	-	-	-	-	54
Production and Machinery	33	4	3	1	-	29
Other Specializations	271	102	85	6	11	169

According to the total number of agricultural engineers registered with the Syndicate, was 3073 with different specializations as shown in the table above (Table.10)⁵⁶.

The percentage of specializations in plant production reached about 59%, 19% for animal production, 13% for food processing, and 9% for other general specialties respectively.

This indicates that the majority of agricultural engineers are specialized in plant production (Figure.8)⁵⁷.

⁵⁶ (1): Specialization Based on Classification of the Palestinian Standard Education in 1997

⁵⁷ Source: Agricultural Engineers Association, 2020. Ramallah – Palestine.

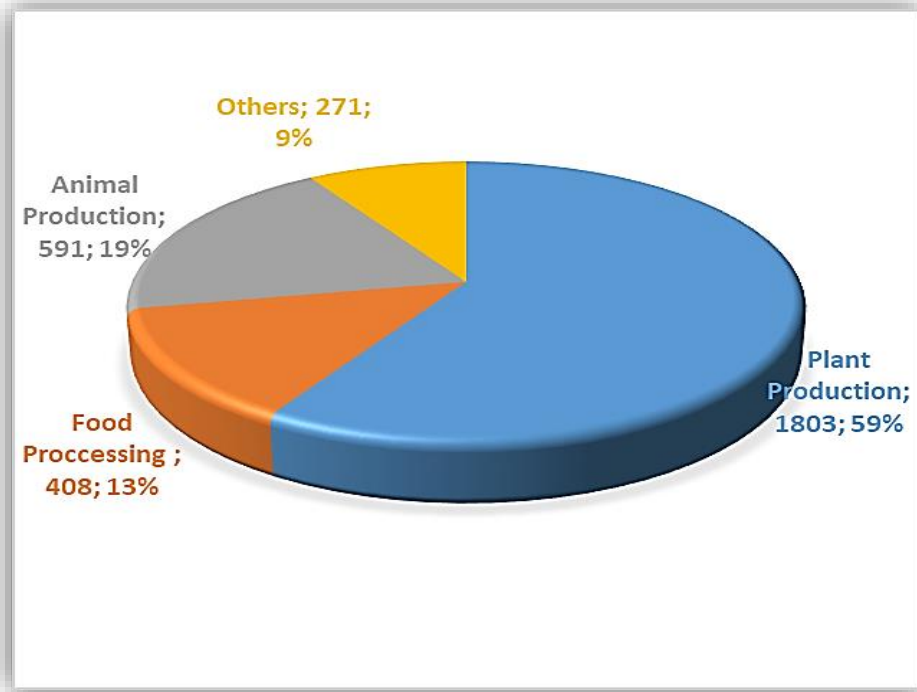


Figure. 8. Registered Agricultural Engineers in Agricultural Engineers Association in Palestine by Specialization and Region, 2019

The data indicates that 25% are female, while there are approximately 600 engineers who are not officially registered in the union⁵⁸.

5.6. AGRICULTURAL UNIVERSITY EDUCATION:

As we mentioned above about national universities that graduate a bachelor's degree in agricultural sciences, these universities are:

1. Hebron University
2. An-Najah National University
3. Palestine Technical University
4. Al-Quds Open University
5. Al-Azhar university in Gaza.

These programs include the basic specializations: Plant production and protection, animal production and protection, food manufacturing, sustainable development, and biotechnology program.

⁵⁸ PCBS: Registered Agricultural Engineers in Agricultural Engineers Association in Palestine by Specialization and Region, 2019, Source: Agricultural Engineers Association, 2020. Ramallah – Palestine.



The following tables explain: The programs, number of majors and degrees awarded, and geographical distribution of faculties of agriculture in national universities (Table.11.).

Table.11.: Universities that graduate a bachelor's degree in agricultural sciences			Degree	Geographical Distribution
#	University	specializations	BA	Governorate
1	Al-Quds Open University	Plant production and Protection	5	Hebron, Jenin, Jericho, Ramallah, Bethlehem
		Rural development		
		Animal Production		
		Food Processing		
		Agricultural Economics and Extension		
2	Hebron University	Plant production and Protection	5	Hebron
		Animal Production and Protection		
		Nutrition and food processing		
3	An-Najah University	Plant production and Protection	4	Nablus & Tulkarem
		Animal Production		
		Food Processing		
		Veterinary Medicine		
4	Palestine Technical University/ Khadoorie	Environment and sustainable agriculture	4	Tulkarem, Ramallah, Hebron
		Horticulture and agricultural extension		
		Food Processing		
		Agricultural Biotechnology		
5	Al Azhar University	Plant production and Protection	4	Gaza
		Livestock and poultry production		
		Food science and technology		
		Veterinary Medicine		



But through the survey that was conducted with national universities during this study, it was found that the total number of graduates since its establishment reached about: 3834 distributed among universities and specializations as in the following table (see table. 12.):

Table. 12. : The total number of agricultural college graduates in Palestine until 2022														
#	University	Plant Production & Protection	Anima Production	Food Processing	Rural development	Total	# of engineers working	% of working engineers	# of engineers working/Males	# of engineers working/Females	% Males	% Females	# Unemployment	% of Unemployment
1	Al-Azhar University	200	440	380	0	1020	800	78.43%	650	150	81.25%	18.75%	220	21.57%
3	Al-Najah University*	350	155	500	0	1005	900	89.55%	402	603	44.67%	67.00%	105	10.45%
4	Hebron University	300	66	703	0	1069	800	74.84%	200	600	25.00%	75.00%	269	25.16%
5	PTUK**	20	0	120	200	340	280	82.35%	168	56	60.00%	20.00%	60	17.65%
6	Al-Quds Open University	180	80	120	20	400	320	80.00%	183	137	57.19%	42.81%	80	20.00%
Total		69	47	117	6	3834			1603	1546			734	19%
*The numbers of graduates are approximate, based on the annual graduate rate at An-Najah University														
**The numbers of graduates are approximate, based on the annual graduate rate at PTUK														

As the unemployment rate among graduate agricultural engineers according to the university that graduated is as shown in Figure 9 as below:

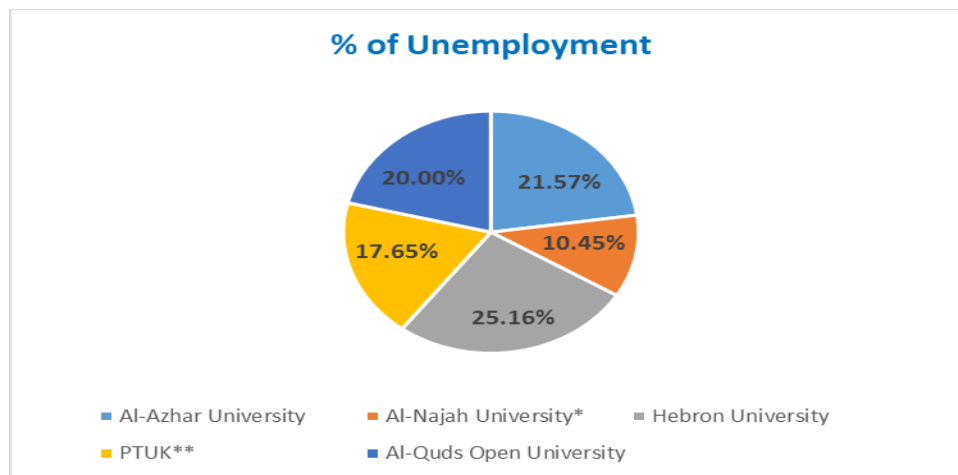


Figure.9.: Unemployment rate among graduate agricultural engineers according to the university that graduated



5.7. AGRICULTURAL UNIVERSITY EDUCATION CURRICULA

Through conducting 276 interviews and questionnaires and by asking questions in various axes related to the skills of agricultural engineers such as operators and working and experienced agricultural engineers in addition to government and private institutions and experts, and after reviewing study plans in higher education institutions as they are available on the websites of these institutions, an analysis was conducted For the contents of educational and training programs offered in universities, centers and institutions, and comparing them with the skills and needs necessary for the labor market, it was found that it is necessary to comprehensively review the skills gap and modify educational curricula to meet the needs of the labor market to reach the required level of competencies. The skills gap of agricultural engineers will be detailed in the next chapter

5.8. AGRICULTURAL ENGINEERS TRAINING OPPORTUNITIES

5.8.1. TRAINING DURING THE STUDY:

As known, the graduate of the Faculties of Agriculture at national universities receives training during the study period through practical hours in the laboratory or farm of the university and through the universities' agreement with private farms and government centers, and after graduation there are some training opportunities.

The interviews and the review of the study plans showed that there is not enough practical training for students studying in the faculties of agriculture, and the graduates themselves did not feel that they had received sufficient training to give them confidence to enter the labor market. As for the demand side (the employers), it was clear that the employers were not satisfied with the level of those employed by Agricultural engineers, and not those they choose in job interviews, where they find weakness in technical capabilities and personal skills. Practical training opportunities are limited (ranging between 15%-30%) of the total university study hours, as the training facilities owned by universities are not diverse, and this was confirmed by the recent graduates. None of them were satisfied with the level of practical training, and this does not mean that there are Distinguished courses with their own practicality when the capabilities are available, which is also what the operators have indicated. Even university cadres did not express their satisfaction with the life skills they offer, such as language, conversation, and correspondence, in order to prepare graduates for the labor market. There are modern skills and technology, for example, in smart agriculture that they do not have.

5.8.2 POSTGRADUATE TRAINING OPPORTUNITIES:

The employer's opportunities

Some companies offer training opportunities for a varying duration, and then the decision is taken to hire. The companies train those they appoint in their own way and through the most experienced crews, so that the agricultural engineer works with another for a period ranging between one and six months.



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The Institutional Programs opportunities:

As for the training programs and projects offered by institutions, they vary according to their durability and ability to absorb large numbers of applicants. Among the most important of these programs are the following:

- **The Agricultural Engineers Syndicate Training opportunities:**

The Jordan Agricultural Engineers Association finances operational training for a limited number of 8-12 agricultural engineers per year, so that the new engineer, a member of the union, is trained in one of the agricultural companies (including nurseries) and institutions as an employee for a temporary period (4-6 months). Usually 12-28 engineers apply to benefit from the training, from whom the required number is selected annually. The union pays 40% of his salary (120 dinars), while the operator pays the rest, and after the end of the period, the engineer will have gained experience and trained in a specific field, and in 70% of the cases the trainee is employed in the company in which he was trained. The training is specialized in the field of the operator's work and is usually not a varied subject.

- **PARC Training Program:**

Agricultural Relief offers a training program for new graduates that began more than 25 years ago. The duration of the program is eight months. Practical work in the field constitutes 60% of the time, while the training inside the hall is 40%. The training of the hall is also focused on skills, especially technical life skills. The program covers 25-30% of the number of applicants to benefit from training opportunities in the West Bank and Gaza. The training program began in 1992 and continues to this day, with 51 batches graduating, including 1200 agricultural engineers of both sexes and in different specializations. This program is perhaps the largest and most sustainable⁵⁹.

- **Near East Foundation**

The Foundation provided two training programs, the first for a period of 3 years and the second for two years. The training is focused on four sectors (palm vegetables, medicinal herbs, and olives). The two programs accommodated 50 agricultural engineers. Intensive training begins inside the halls for a period of 3 weeks, 8 hours per day, for each group of trainees. It deals with general agricultural topics, then the trainees are distributed among the sectors according to their desire, and the training is through working in companies and institutions. The program consists of 350 hours of training and work. However, the program depends on the availability of funding, and its continuity is not guaranteed as it is linked to a transfer program for a limited period.

⁵⁹ PARC: (2022): <http://www.pal-arc.org/tenders/index/ar-2022>



5.8.3. AGRICULTURAL FINANCE SERVICES

Despite the importance of the agricultural sector politically as the land is the focus of the conflict, this sector is the weakest of the economic sectors in terms of services, especially financial services, due to the specificity of the production process and the high level of risk, and dealing with production seasons. For this reason, sources and institutions for financing agricultural activities have been found within specific mechanisms, and the most important of these institutions that finance agricultural activities, whether for youth, farmers or women entrepreneurs, even on a narrow level, will be addressed, and these institutions include:

1. Palestinian Agricultural Credit Corporation

A governmental institution affiliated with the Ministry of Agriculture, established in 2015 by a presidential decree, and affiliated with the Council of Ministers, and among its most important tasks, it grants loans of all kinds, types and terms to farmers and companies operating in the agricultural sector, and works to encourage farmers working in the agricultural sector to establish agricultural projects and projects for the manufacture of agricultural products and production requirements. It also assists farmers in preparing economic feasibility studies, and invests money in agricultural development projects.

2. The Palestinian Institution for Credit and Development - FATEN

The Palestinian Institution for Credit and Development “Fatten” was established in 1999 as a private, non-profit joint stock company. The foundation began its journey by focusing on women and issuing group loans, which contributed to creating new job opportunities and thus reducing poverty and unemployment rates. The number of branches reached 37 scattered in various governorates of the country, with a staff of about 282 female and male employees serving more than 39,713 borrowers, 32.56% of whom are women.

3. The Arab Center for Agricultural Development - ACAD

A civil development institution that contributes to the efforts of developing the agricultural and rural sector. The Arab Center for Agricultural Development “ACAD” began its development process since 1988. In 1993, the project was institutionalized in a development institution by registering a non-profit civil institution in the city of Jerusalem in the name of the Arab Center for Agricultural Development. Since the start of the financing project and until the end of 2013, ACAD has funded 14,773 projects worth \$34 million, in addition to financing 30 cooperative societies, with a value exceeding \$500,000. After the issuance of the Specialized Lending Companies Law in 2003, Acad Finance and Development Company was established with a capital of \$5.35 million⁶⁰.

⁶⁰ PARC: (2019): A study to develop a vocational training program (Be a professional)-2019



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4. Palestinian Businesswomen Association - Asala

It is a Palestinian non-governmental organization that started its work in 1997 under the name of the Women's Projects Center and then registered under its current name in 2001. Asala aims to enhance the necessary skills of Palestinian women and enhance opportunities for their successful contribution to society and its development, and Asala provided more than 30,000 loans worth more than 35 million US dollars for Palestinian business owners, Asala has established 9 field offices throughout the West Bank and Gaza Strip. In 2014, the Asala Company for Development and Lending was established, to be the financing arm responsible for continuing to provide financial support to the beneficiaries.

5. Union of Cooperative Societies for Savings and Credit

The idea of saving and credit was launched by a group of rural women at the end of 1999, as a result of the direct relationship of agricultural relief with women in the Palestinian countryside, and the savings and credit program began to develop and spread as the pioneering and advanced idea. The institutionalization stage culminated in obtaining the necessary license for the Federation of Cooperative Societies for Savings and Credit Limited Liability in Palestine by the Cooperation Office in the Palestinian Ministry of Labor to practice its various development activities in February of the year 2005 AD. The Union of Cooperative Societies for Savings and Credit includes in its membership twelve cooperative societies, covering (210) Palestinian sites and villages and including (7328) women.

6. Reef Finance

The countryside is a support arm for the Agricultural Relief Society and it completes the production process and provides financial support for many rural needs. Agricultural activities cover about a third of its financing activity and it has 60 people working on credit. The countryside focuses on the agricultural sector and gender and has a small grant program for university students, which is distinguished from banks with flexibility and facilitation. Logistics procedures Al-Reef Company is distinguished by dealing with the Islamic program such as Salam (pre-purchasing the crop) from farmers and supports farmers and agricultural associations, and the process of coordination with partner institutions is carried out through the lending network, as well as through the Palestinian Monetary Authority, and among the most important challenges: weak funding and conditional financing, and the high cost of bank loans. The level of risk is high in the agricultural sector, the farmer's mentality that loans are a gift. High cost of follow-up loans. The idea of dividing the support with the Tamkeen relief project is currently being studied, so that the support is divided into half of the financial support and the other half through a loan, with the aim of increasing the number of beneficiaries and raising the responsibility and attention of the beneficiary.

7. Palestinian Fund for Employment and Social Protection for Workers



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The Fund is a quasi-governmental institution, established in 2003, and later turned into a national umbrella for programs and projects to provide job opportunities. In addition to providing business advice, self-employment support, and pilot projects. Focusing on young graduates, women and cooperatives, especially in marginalized areas⁶¹.

The Fund works to finance lending institutions with better facilities than banks, and works as a link between banks and beneficiaries, in addition to holding several training workshops and providing technical expertise on demand. The total number of loans amounted to about 1,300. Agricultural activities constitute at least 30%, which is a good percentage, and the Fund is keen on a good percentage of women, as it is not less than 40% of the borrowers. The Fund has a coordinating relationship with the Ministry of Agriculture and the Agricultural Credit Corporation.

8. Accelerating pioneering agricultural projects

Within the study of the needs and the complementarity of roles in agricultural relief, the need for a caring body was concluded

5.9. THE LABOUR MARKET FOR AGRICULTURAL ENGINEERS:

The fields of work and employers of agricultural engineers differ, and there are no documented references or records in this field, but according to the Syndicate of Agricultural Engineers / Jerusalem Branch, where the practicing certificate that is required in official jobs is obtained, and from these data it appears that the public sector is the main operator where the engineer works in the Ministry of Agriculture or the Ministry of Education in particular. The data also indicates that approximately 500 agricultural engineers work in the public sector, and the private sector comes in second place, where agricultural supply companies, nurseries, animal production farms and hatcheries employ what Approximately 200 engineers, and non-governmental organizations and international organizations working in relief and development are working to employ approximately 150 agricultural engineers. Many agricultural engineers also work in many Arab countries, and some engineers practice leadership in agricultural work⁶².

5.10. TRAINING NEEDS FOR AGRICULTURAL ENGINEERS

The focus meetings showed that agricultural engineers feel that their training needs are multiple and not limited to agricultural technical matters. The following training needs were raised:

1. Technical empowerment of the agricultural engineer and knowledge of agricultural sciences is the basis of trust and the ability to win the confidence of farmers, and this includes different value chains in addition to skills and general basic knowledge
2. Project management with its various episodes from programming to closing, including writing project proposals and economic feasibility

⁶¹ PARC: (2019): A study to develop a vocational training program (Be a professional)-2019

⁶² PARC: (2019): A study to develop a vocational training program (Be a professional)-2019



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3. The skills of promotion and marketing of agricultural products are the most important for private sector operators, and the related personal and life skills such as communication, leadership, conflict resolution and public speaking
4. Technically focusing on producing high-value, economically feasible crops that are required in the local and international markets, such as dates, medicinal herbs and strawberries.
5. Entrepreneurship in business with a focus on practical cases and success stories that break the barrier of fear and grow the orientations of graduates for entrepreneurial work and moving away from the thought of the job
6. The requirements and ethics of the profession of agricultural engineer and an understanding of the nature of the job and the responsibilities associated with it
7. Basics of farming work from design to irrigation networks, protected agriculture, fertilizers and fertilization, pesticides and other skills
8. The English language, especially with regard to correspondence



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Chapter six:

Study Analysis, Conclusion

And

Recommendations



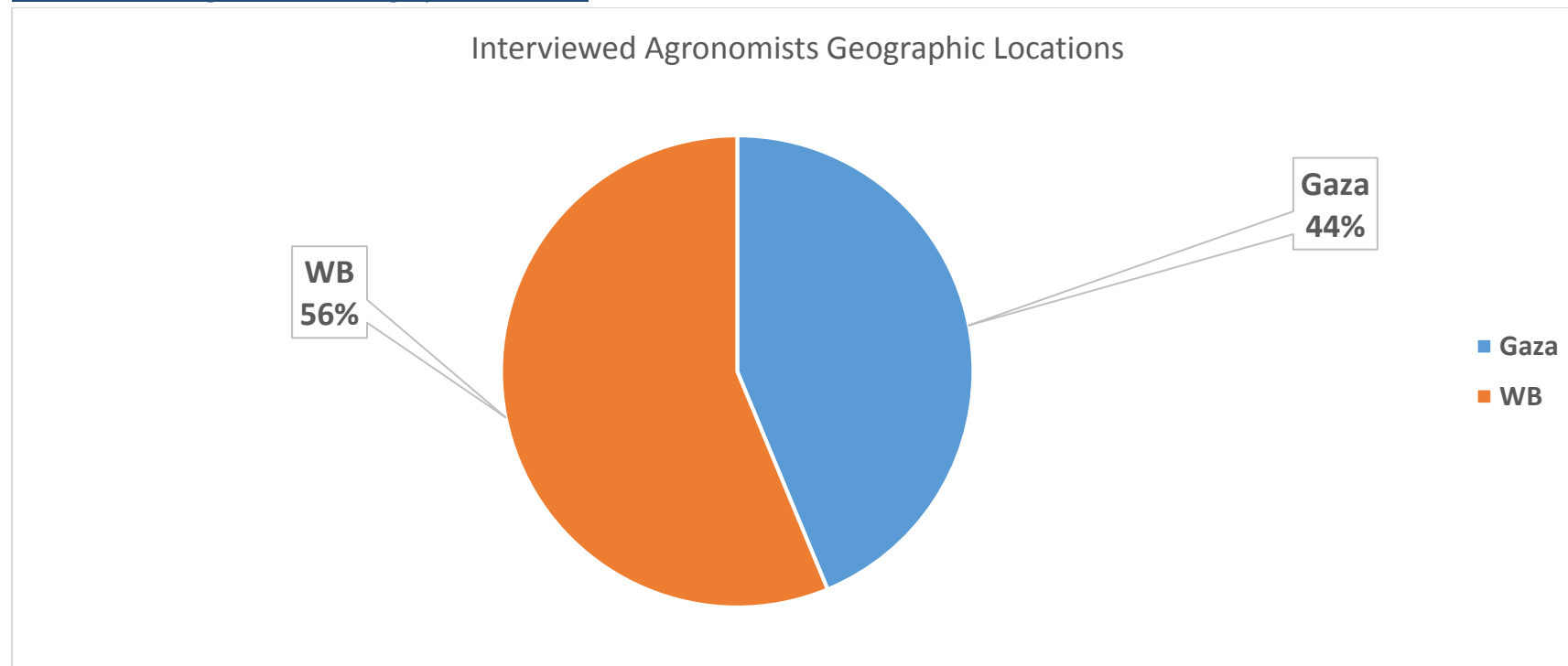
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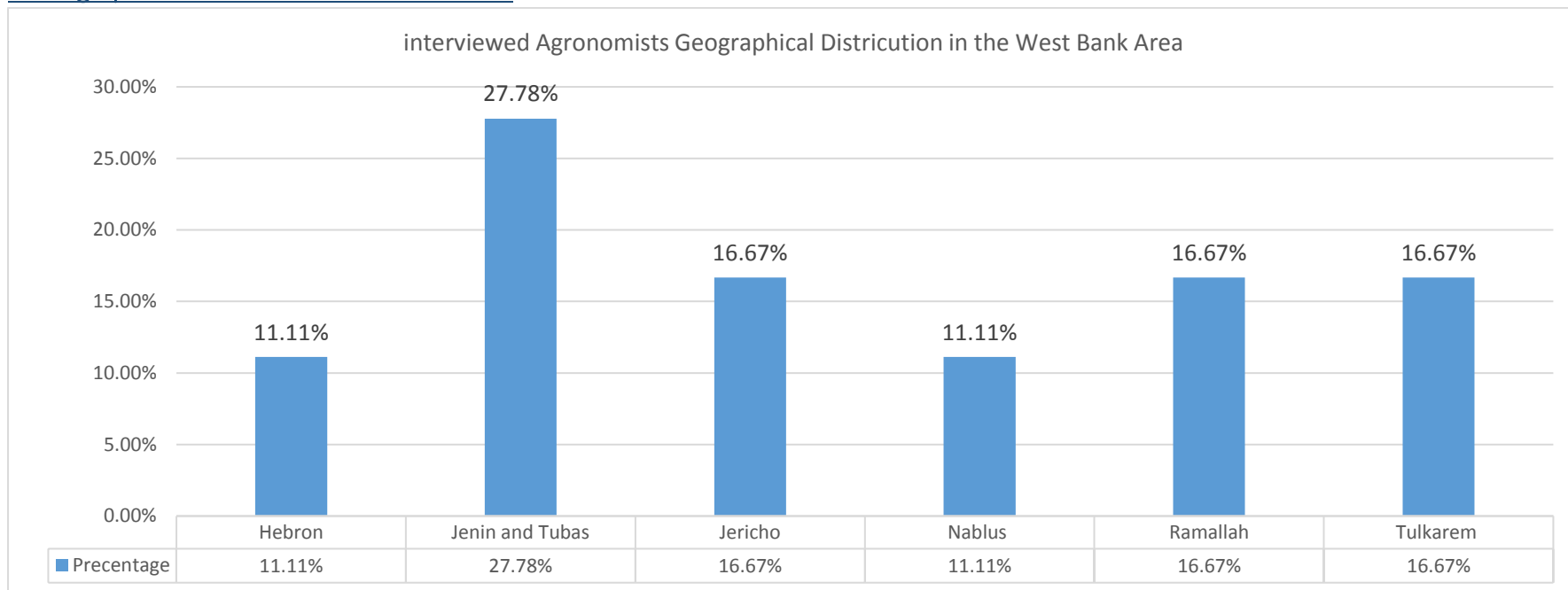
6. CHAPTER SIX: ANALYSIS, CONCLUSION AND RECOMMENDATIONS

6.1. Analytical over view on Skill gap for Agronomists in WB and GZ

1- Interviewed Agronomists Geographic Locations



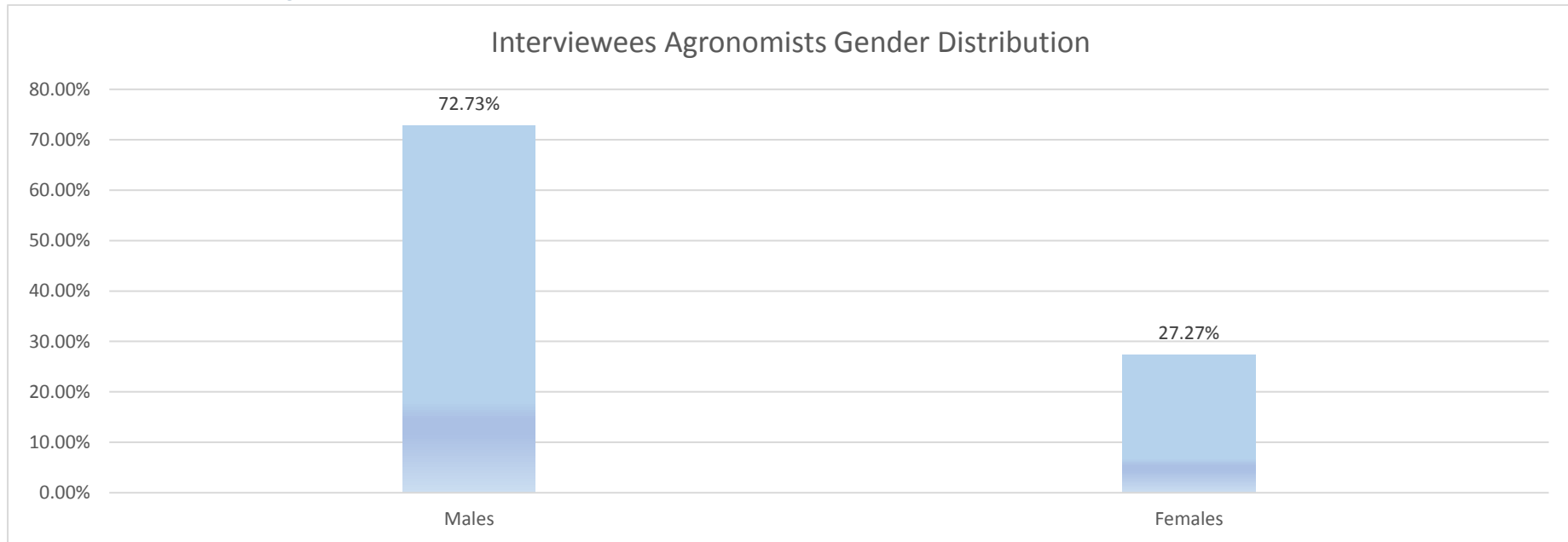
2-Geographical Distribution in the West bank



***To concentrate training and capacity building on the areas of Jenin and Tubas, Jericho and Tulkarem.**



3-Gender Distribution – Agronomists



Age Range: From 24 to 58 Years old

Age Average: 32.84 years' old

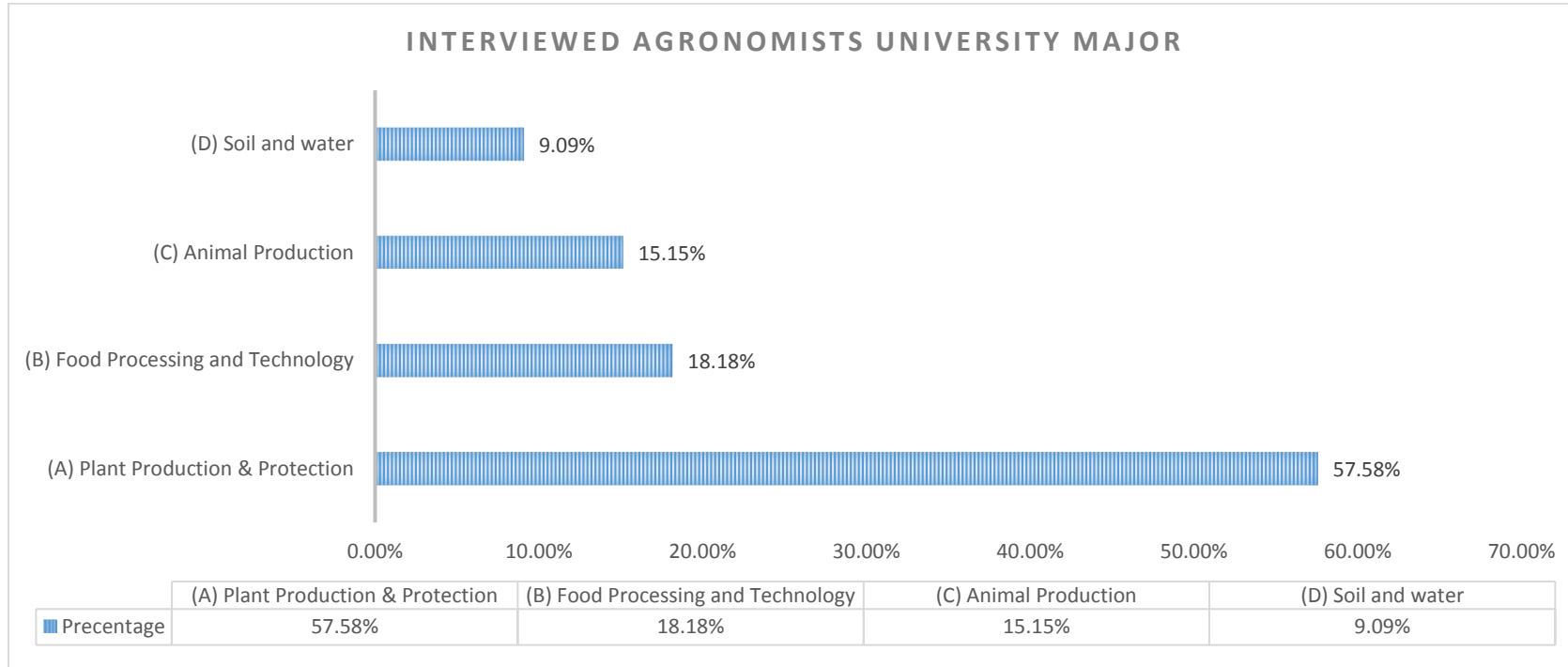
***To target more Female agronomists for training and capacity building to balance the gender gap.**



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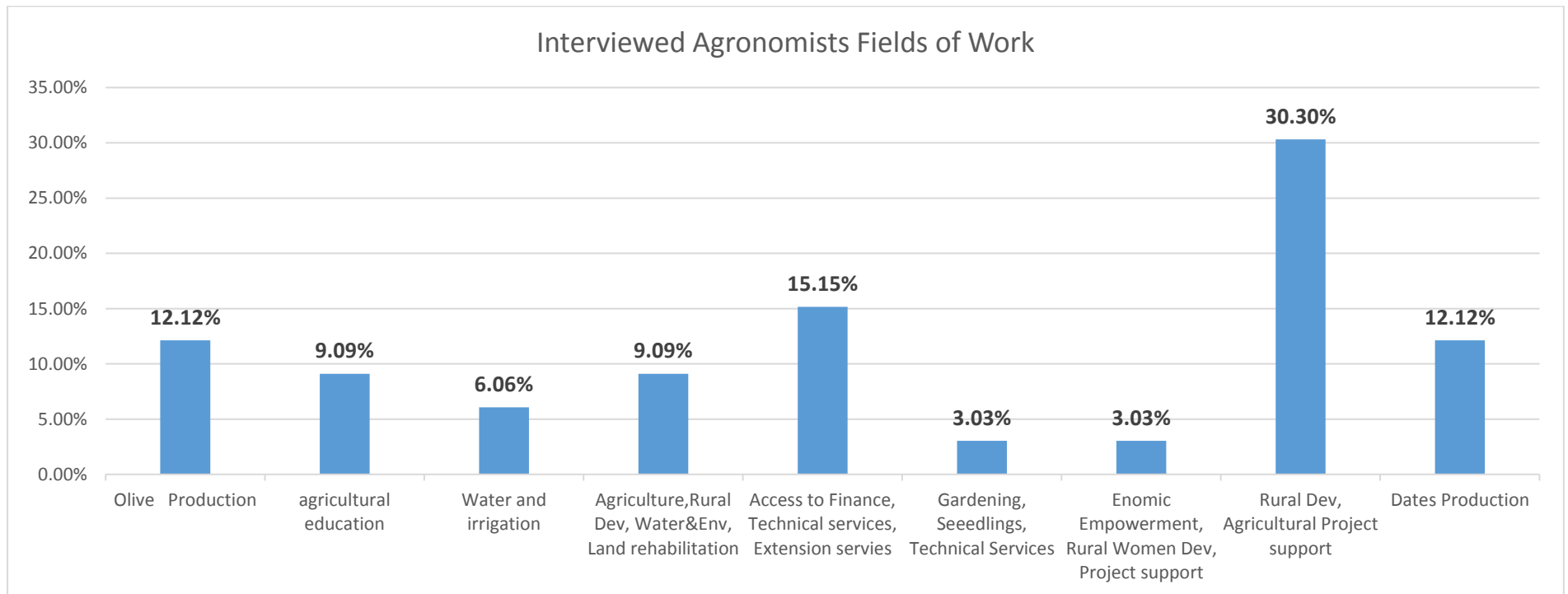


4-Interviewed Agronomists University Major



4-Agronomist Info-Workplace information

Agronomists Field of Work and specialties





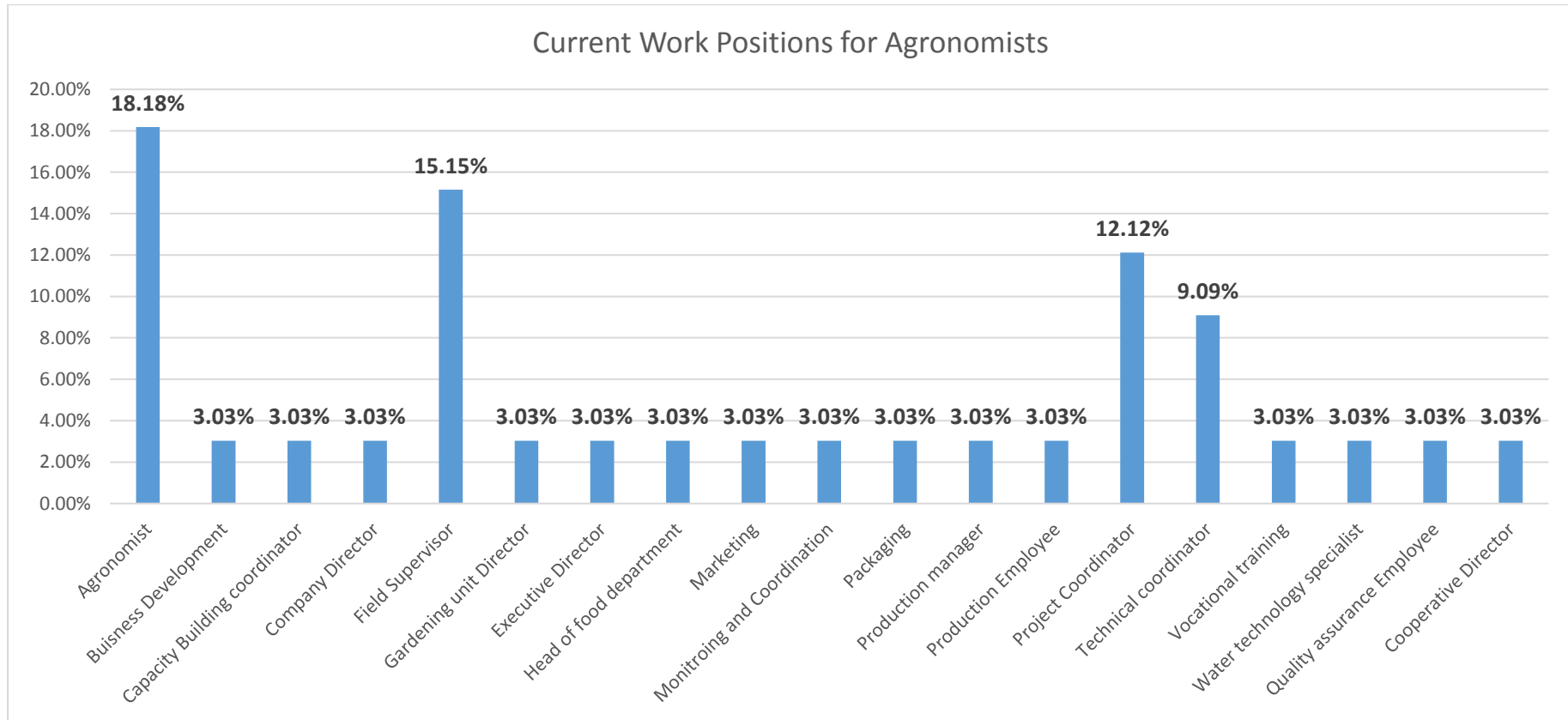
Field	Percentage%
Olive Production	12.12%
agricultural education	9.09%
Water and irrigation	6.06%
Agriculture, Rural Dev, Water & Env, Land rehabilitation	9.09%
Access to Finance, Technical services, Extension services	15.15%
Gardening, Seedlings, Technical Services	3.03%
Economic Empowerment, Rural Women Dev, Project support	3.03%
Rural Dev, Agricultural Project support	30.30%
Dates Production	12.12%



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5-Labor Info: Current job titles/Positions for interviewed Agronomists



***The four major specialties in the targeted agronomist respectively are: - Agronomy, field supervision, Project coordination, and technical coordination.**



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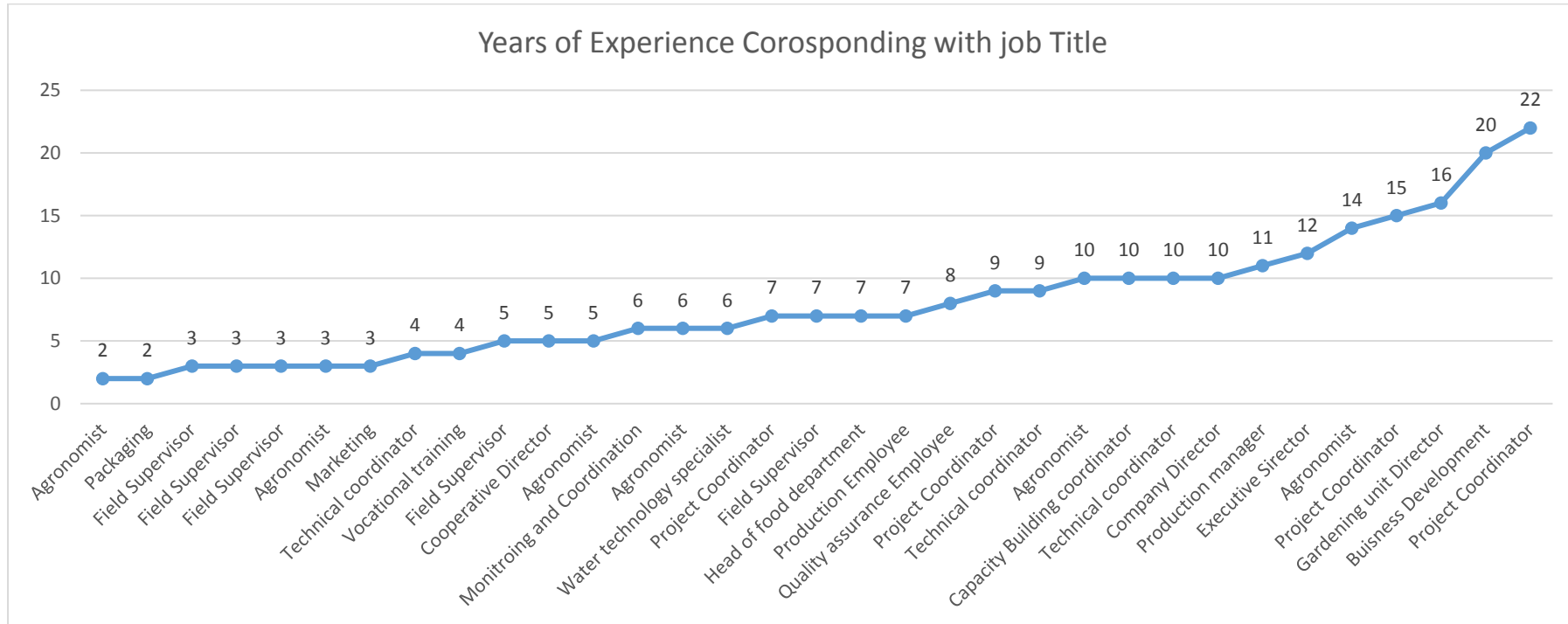
POSITION	PERCENTAGE	#
AGRONOMIST	18.18%	6
BUISNESS DEVELOPMENT	3.03%	1
CAPACITY BUILDING COORDINATOR	3.03%	1
COMPANY DIRECTOR	3.03%	1
FIELD SUPERVISOR	15.15%	5
GARDENING UNIT DIRECTOR	3.03%	1
EXECUTIVE DIRECTOR	3.03%	1
HEAD OF FOOD DEPARTMENT	3.03%	1
MARKETING	3.03%	1
MONITROING AND COORDINATION	3.03%	1
PACKAGING	3.03%	1
PRODUCTION MANAGER	3.03%	1
PRODUCTION EMPLOYEE	3.03%	1
PROJECT COORDINATOR	12.12%	4
TECHNICAL COORDINATOR	9.09%	3
VOCATIONAL TRAINING	3.03%	1
WATER TECHNOLOGY SPECIALIST	3.03%	1
QUALITY ASSURANCE EMPLOYEE	3.03%	1
COOPERATIVE DIRECTOR	3.03%	1



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6-Years of Experience for interviewed agronomists





Job Title	Years of Experience
Agronomist	2
Packaging	2
Field Supervisor	3
Field Supervisor	3
Field Supervisor	3
Agronomist	3
Marketing	3
Technical coordinator	4
Vocational training	4
Field Supervisor	5
Cooperative Director	5
Agronomist	5
Monitoring and Coordination	6
Agronomist	6
Water technology specialist	6
Project Coordinator	7
Field Supervisor	7
Head of food department	7
Production Employee	7
Quality assurance Employee	8
Project Coordinator	9
Technical coordinator	9
Agronomist	10

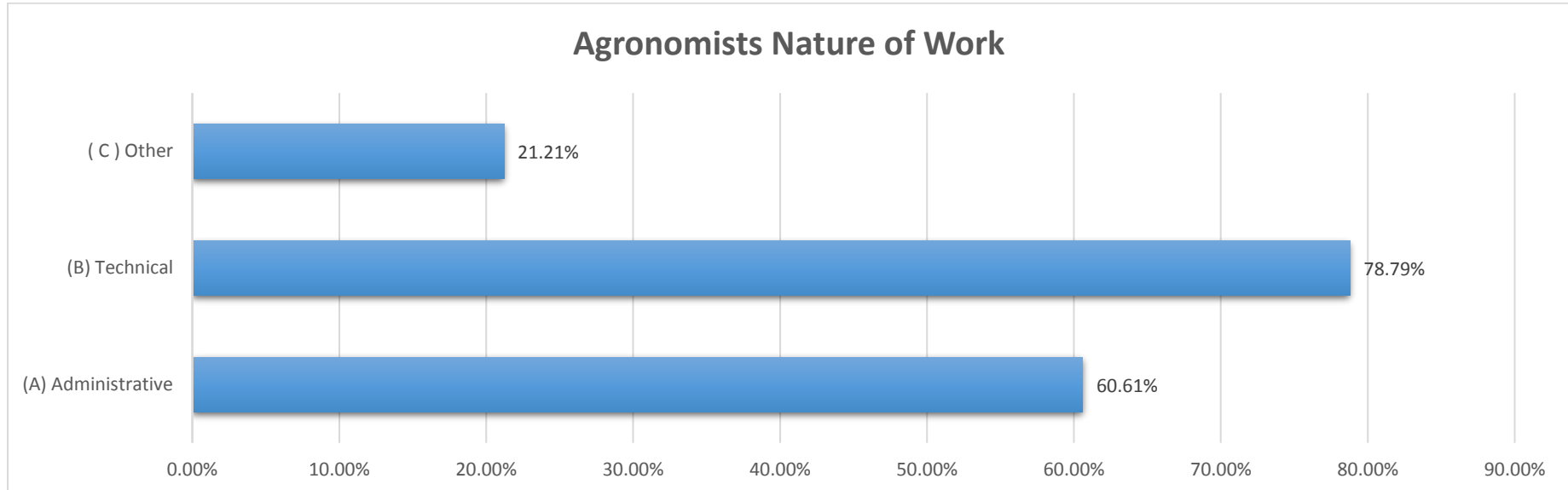


Capacity Building coordinator	10
Technical coordinator	10
Company Director	10
Production manager	11
Executive Sector	12
Agronomist	14
Project Coordinator	15
Gardening unit Director	16
Business Development	20
Project Coordinator	22

Range of Years of Experience: 2 to 22

Average years of experience: 8 years

7-Agronomists Work Nature



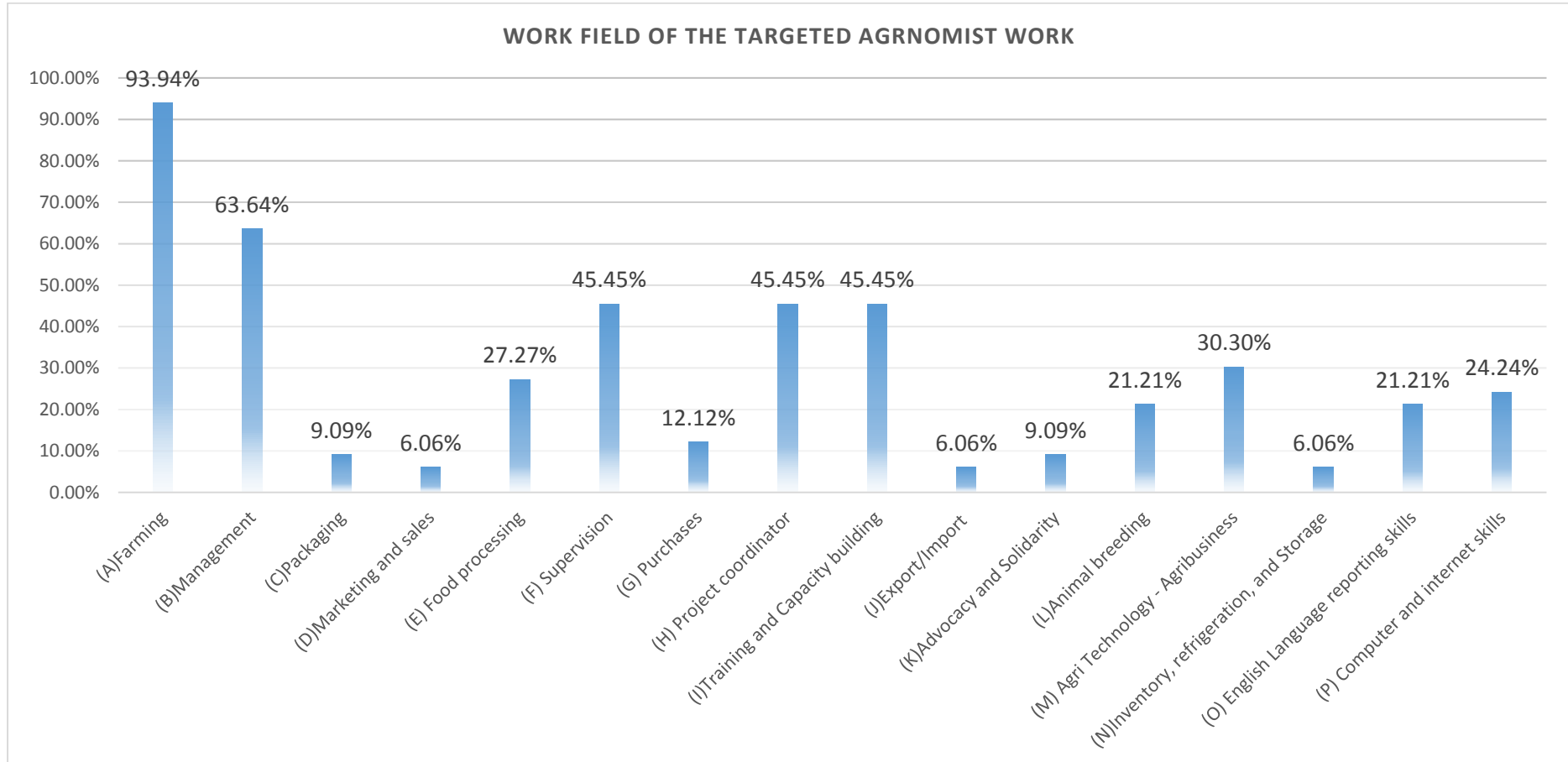
***78.79% nature of work is Technical while 60.61% is Administrative**



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8- Agronomist field of Work





Work Field	%
(A) Farming	93.94%
(B) Management	63.64%
(C) Packaging	9.09%
(D) Marketing and sales	6.06%
(E) Food processing	27.27%
(F) Supervision	45.45%
(G) Purchases	12.12%
(H) Project coordinator	45.45%
(I) Training and Capacity building	45.45%
(J) Export/Import	6.06%
(K) Advocacy and Solidarity	9.09%
(L) Animal breeding	21.21%
(M) Agri Technology - Agribusiness	30.30%
(N) Inventory, refrigeration, and Storage	6.06%
(O) English Language reporting skills	21.21%
(P) Computer and internet skills	24.24%

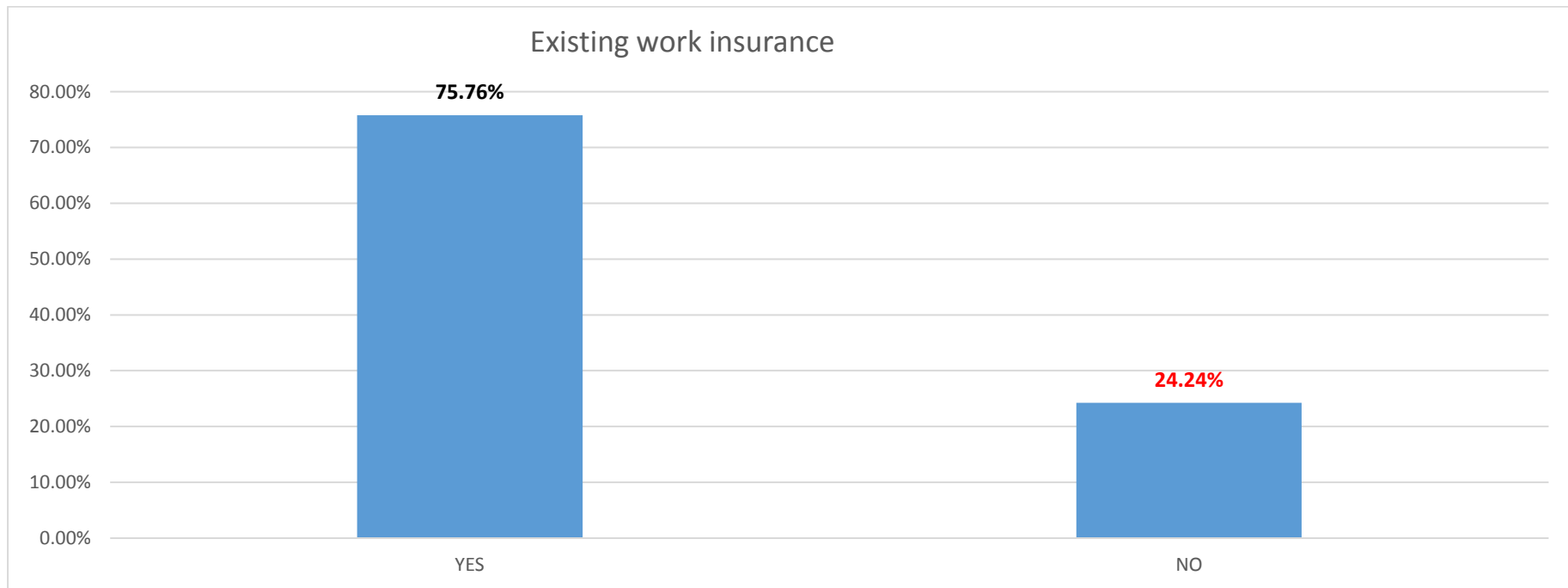
Daily working hours Avg 8 hours

Lowest Salary per month: 1530 ILS Job Title: Field Supervisor

Highest Salary per month: 8000 ILS Job Title: Company Manager

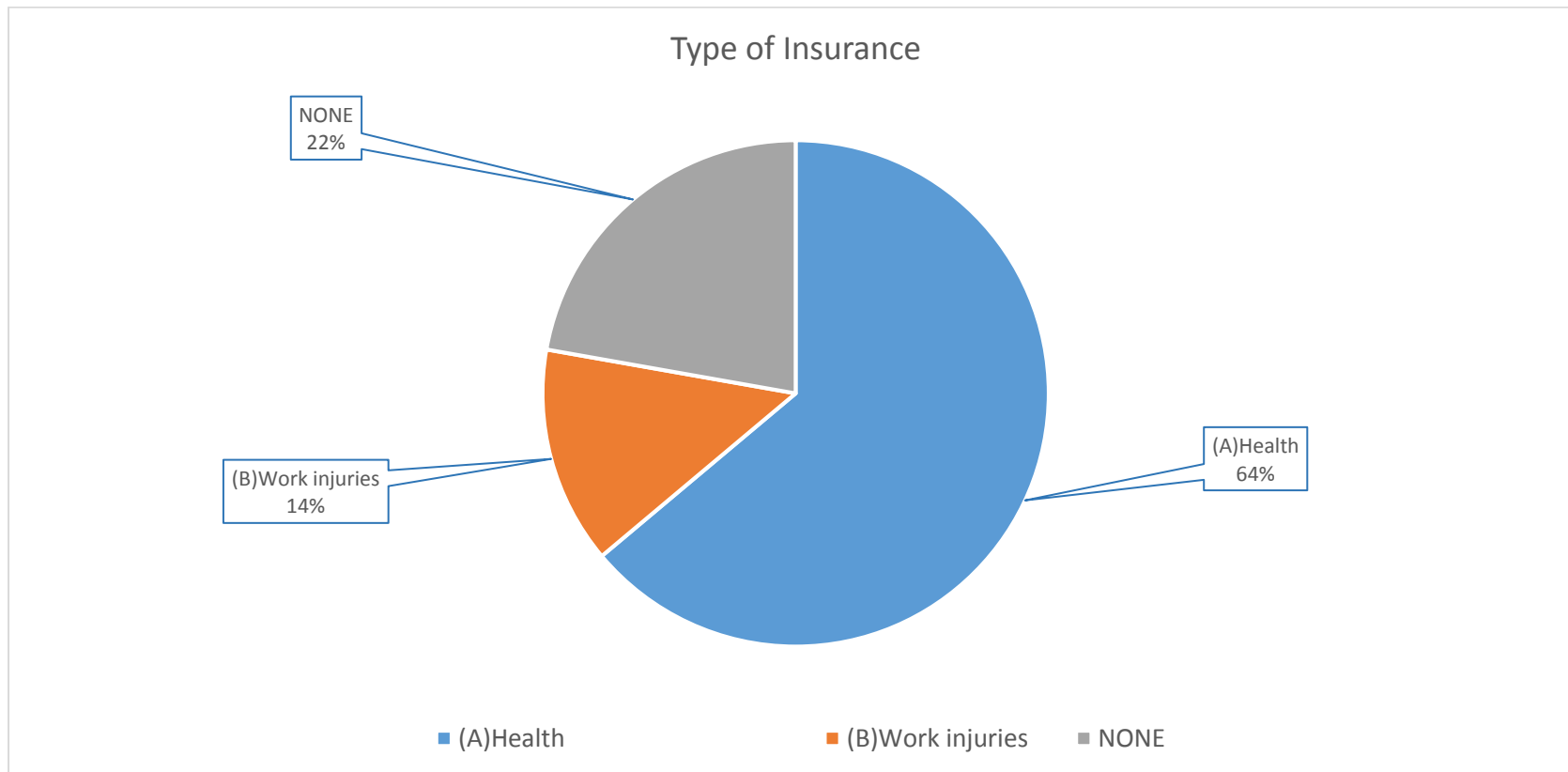
Salary Avg: 3708 ILS per month

9-Existing work insurance

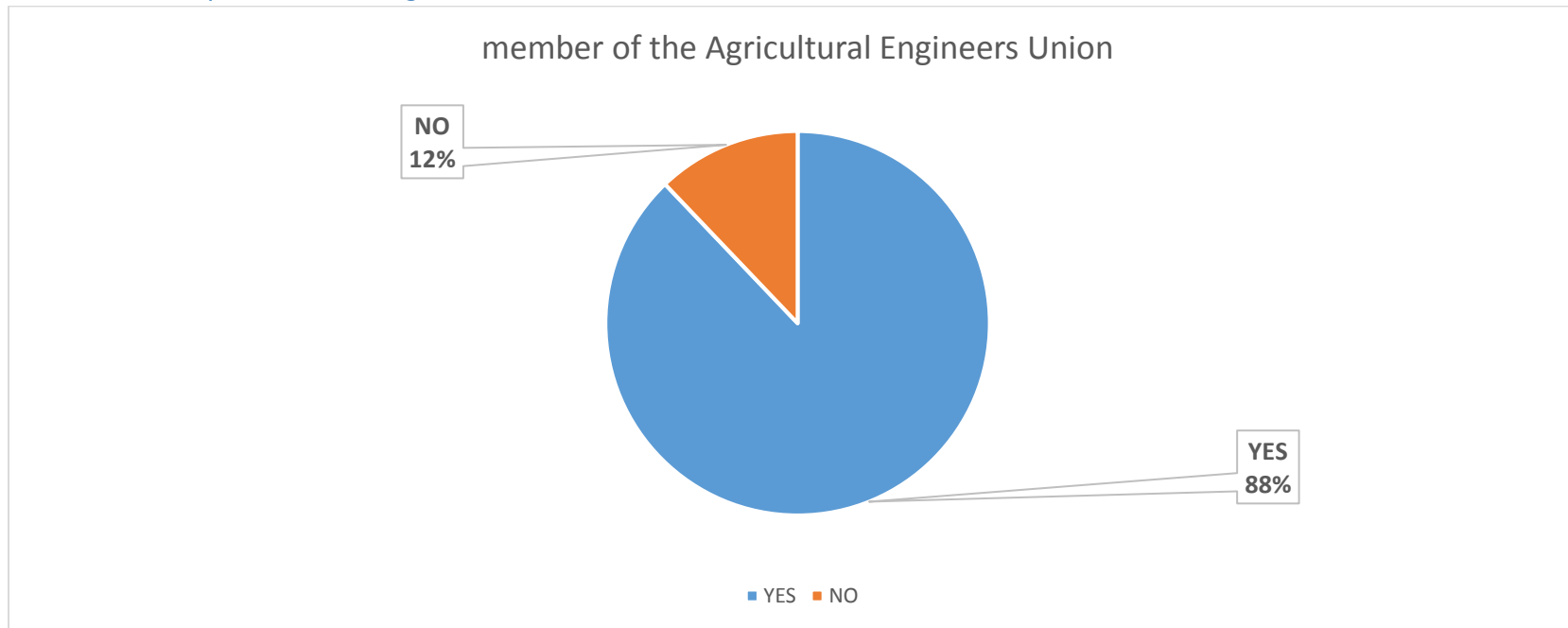


***The surveys show that 75.76% have work insurance which indicate to a healthy work condition quality**

10- Type of Insurance – Agronomist

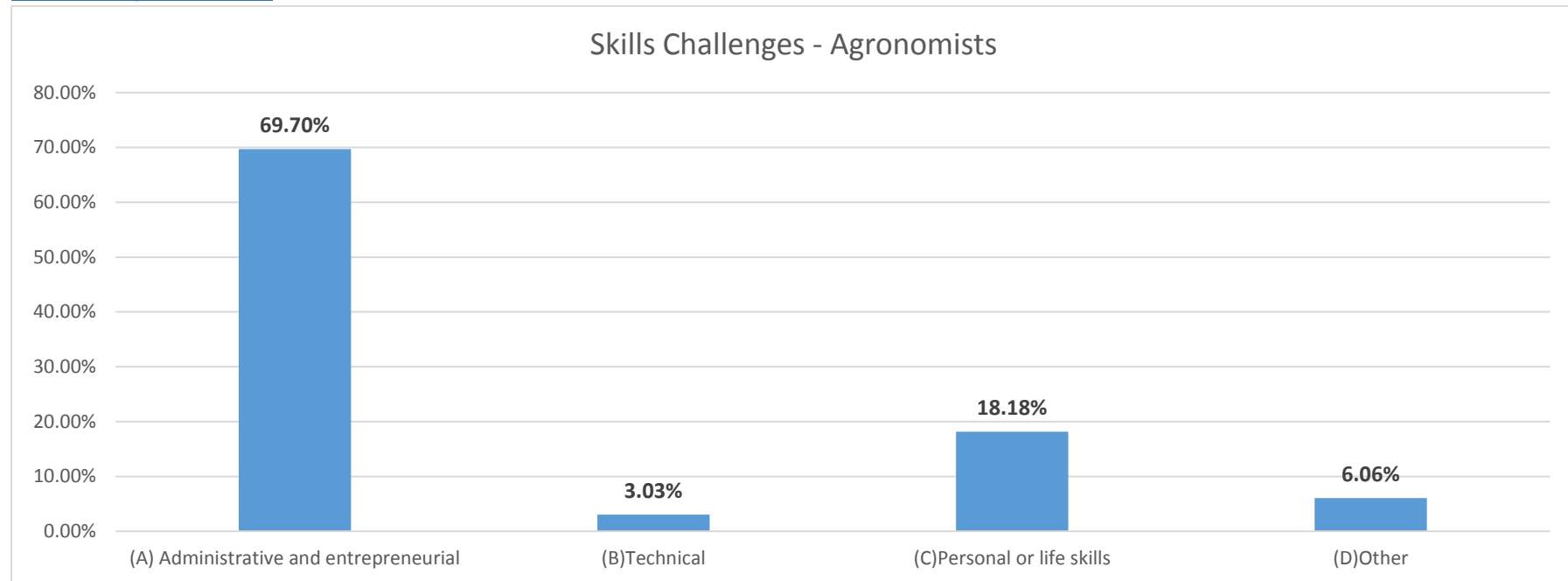


11- Membership of Unions – Agronomists



***88% of targeted agronomists are members of the Agricultural engineers' unions.**

12-Challenges and skills



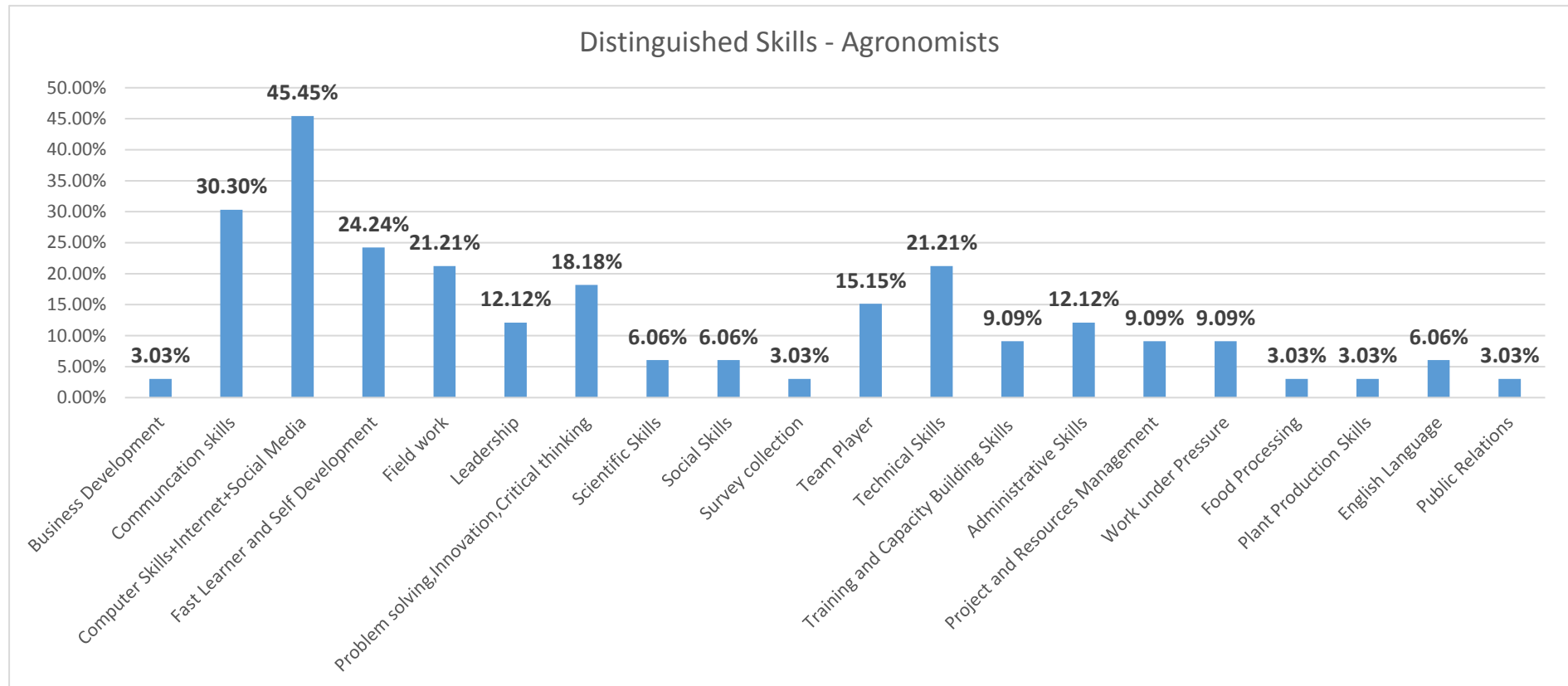
Regarding the Answer for Part: (D)Other it constitutes 6.06% where the targeted agronomist responded:

- Time Management
- English Language - Reporting and translate

***69.70% from targeted agronomists believe they face administrative skills obstacles and challenges. Which leads to a conclusion that agronomist should be targeted with Administrative and entrepreneurial skills**



13-Distinguished Skills



The targeted Agronomists response to what skills distinguishes you.



Distinguished Skills	%
Business Development	3.03%
Communication skills	30.30%
Computer Skills +Internet +Social Media	45.45%
Fast Learner and Self Development	24.24%
Field work	21.21%
Leadership	12.12%
Problem solving, Innovation, Critical thinking	18.18%
Scientific Skills	6.06%
Social Skills	6.06%
Survey collection	3.03%
Team Player	15.15%
Technical Skills	21.21%
Training and Capacity Building Skills	9.09%
Administrative Skills	12.12%
Project and Resources Management	9.09%
Work under Pressure	9.09%
Food Processing	3.03%
Plant Production Skills	3.03%
English Language	6.06%
Public Relations	3.03%

From the above chart, we conclude that:

45.45% from targeted agronomist possess skills in Computer and internet skills, in which it is advised to decrease concentration of Computer skills training courses.



While 30.30% believe that they are very good with communication skills.

On the other hand, targeted agronomists believe they have gaps in: -

- **Public relations.**
- **English Language.**
- **Survey collection.**
- **Business Development.**
- **Scientific skills.**

Do you think that the agricultural engineer's lack of the necessary skills increases the unemployment rate among engineers?

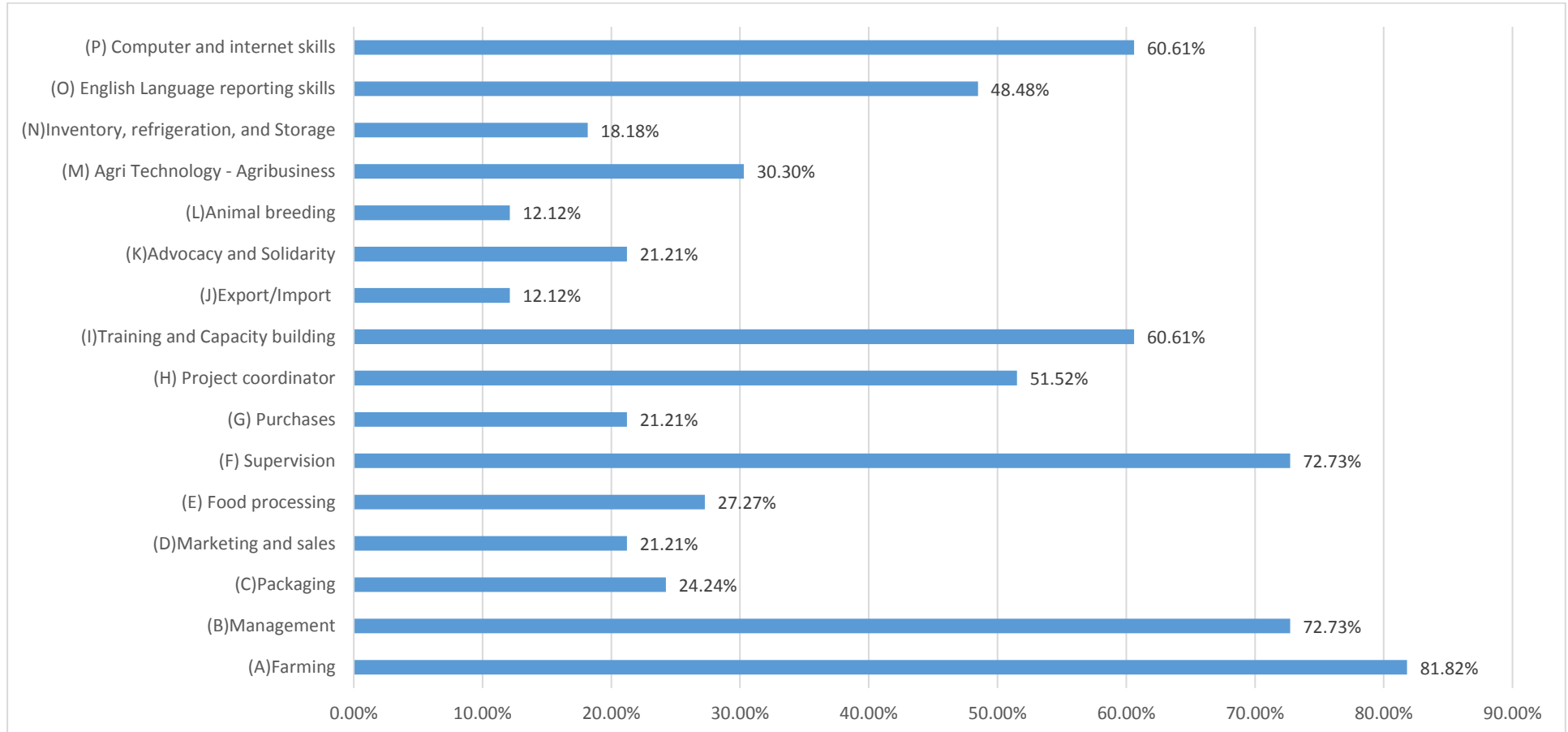
100% of the target group responded: 100% to the above Question.



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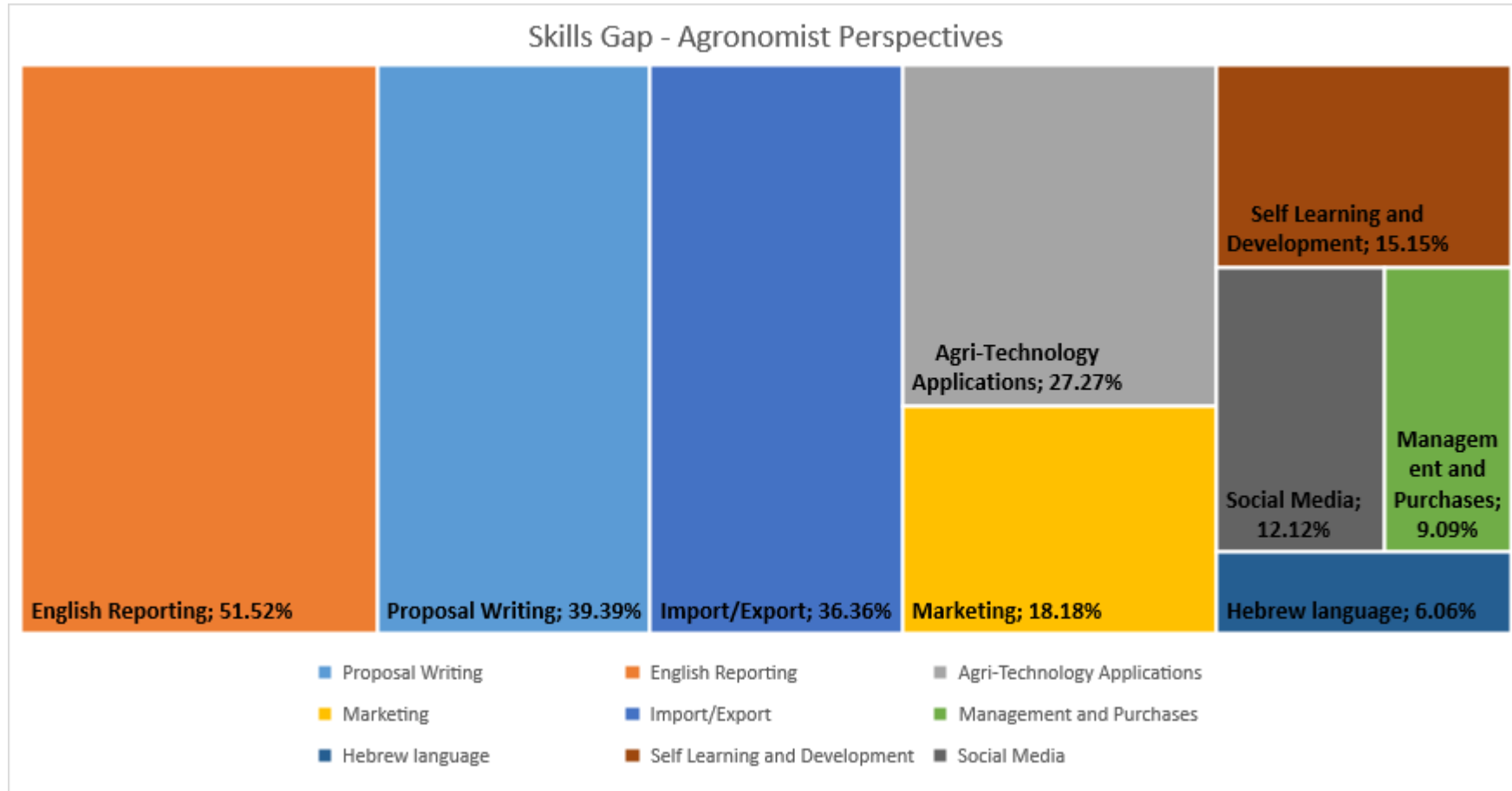


What skills do you have in your opinion?



81.82% possess farming Skills where 72.73% are highly skilled in supervision activities.

14. Skills Gap, Agronomist Perspectives





Skills gap	%
Proposal Writing	39.39%
English Reporting	51.52%
Agri-Technology Applications	27.27%
Marketing	18.18%
Import/Export	36.36%
Management and Purchases	9.09%
Hebrew language	6.06%
Self-Learning and Development	15.15%
Social Media	12.12%

SKILLS GAP CONCLUSION:

For Agronomists, it is highly advised to concentrate on the following skills to close the gap among targeted agronomists

PARC is highly advised to include the following training program in its curriculum: -

- English Language, Reporting skills
- Proposal writing Skills
- Import/Export Skills
- Agri-Technology Skills
- Marketing Skills

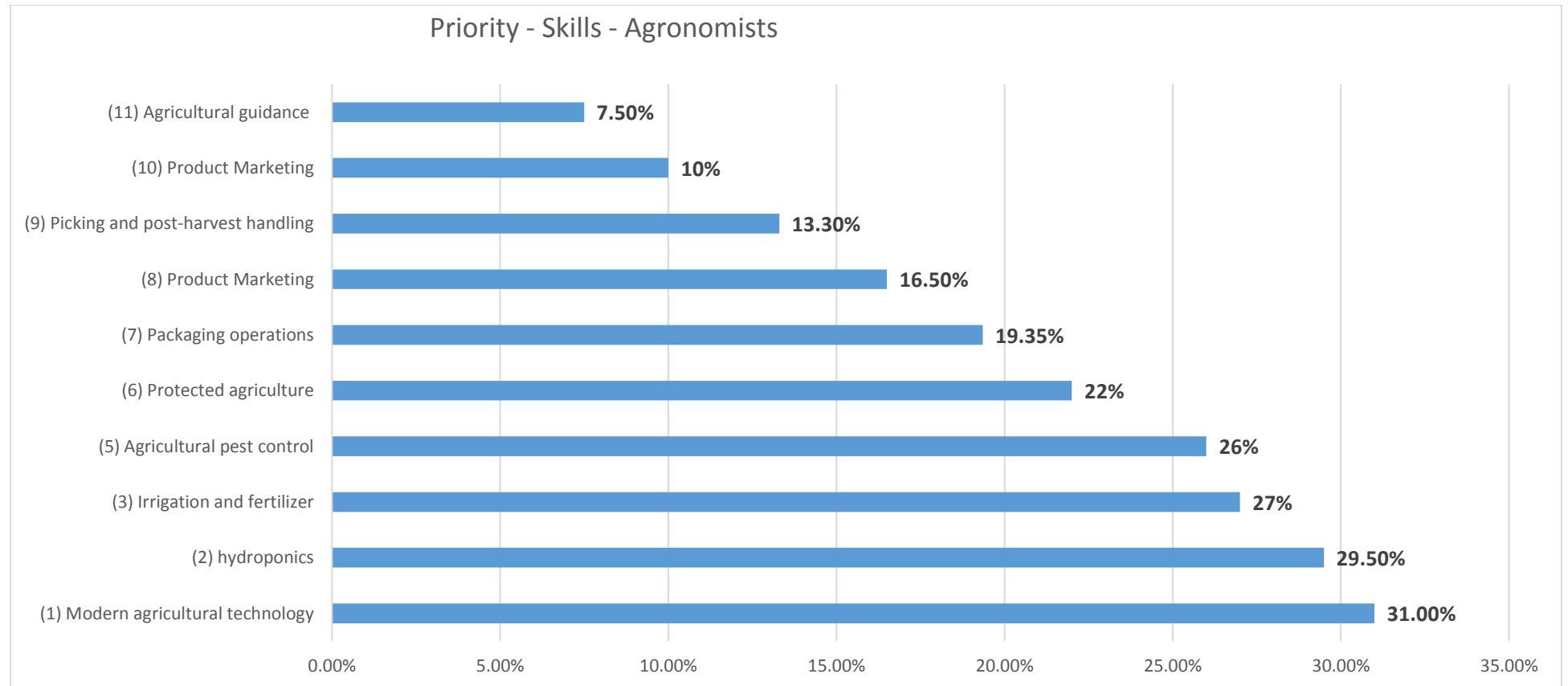


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The most important agricultural fields required in the Palestinian labor market, according to priority:
Please write the numbers from 1 to 11; where 1 is highest and 11 is lowest

15. Priority skills of agronomists:





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Priority	(A) Soil preparation for planting	(B) Selection of varieties and seedlings	(C) Vaccination of vegetables and fruits, including tropical	(D) hydroponics	(E) Irrigation and fertilizer	(F) Agricultural pest control	(G) Picking and post-harvest handling	(H) Packaging operations	(I) Food manufacturing	(J) Product Marketing	(K) Export crops	(L) Agricultural guidance	(M) Modern agricultural technology	(N) Protected agriculture
1	12.50%	6.25%	3.13%	12.50%	12.50%	12.50%	9.38%	9.38%	6.25%	6.25%	3.13%	9.38%	15.63%	12.50%
2	3.13%	9.38%	12.50%	3.13%	18.75%	12.50%	12.50%	18.75%	6.25%	15.63%	9.38%	6.25%	6.25%	3.13%
3	3.13%	9.38%	3.13%	9.38%	12.50%	6.25%	3.13%	9.38%	9.38%	18.75%	9.38%	12.50%	12.50%	12.50%
4	6.25%	15.63%	6.25%	6.25%	9.38%	15.63%	12.50%	25.00%	12.50%	12.50%	15.63%	12.50%	12.50%	3.13%
5	12.50%	3.13%	12.50%	6.25%	0.00%	3.13%	15.63%	9.38%	6.25%	6.25%	6.25%	15.63%	6.25%	15.63%
6	6.25%	3.13%	9.38%	21.88%	6.25%	9.38%	21.88%	6.25%	9.38%	6.25%	12.50%	12.50%	9.38%	3.13%
7	12.50%	21.88%	15.63%	21.88%	6.25%	6.25%	3.13%	3.13%	12.50%	0.00%	12.50%	9.38%	6.25%	21.88%

***PARC is highly advised to include the following skills in its curriculum.**

According to the targeted agronomists, they sorted out the most important agricultural fields required in the Palestinian labor market as the following: -

- **Modern Agricultural Technology**
- **Hydroponics skills**
- **Irrigation and fertilizers skills**
- **Agricultural pest control**
- **Protected agriculture**
- **Packaging and packing operations**
- **Products marketing**
- **Export/Import skills**

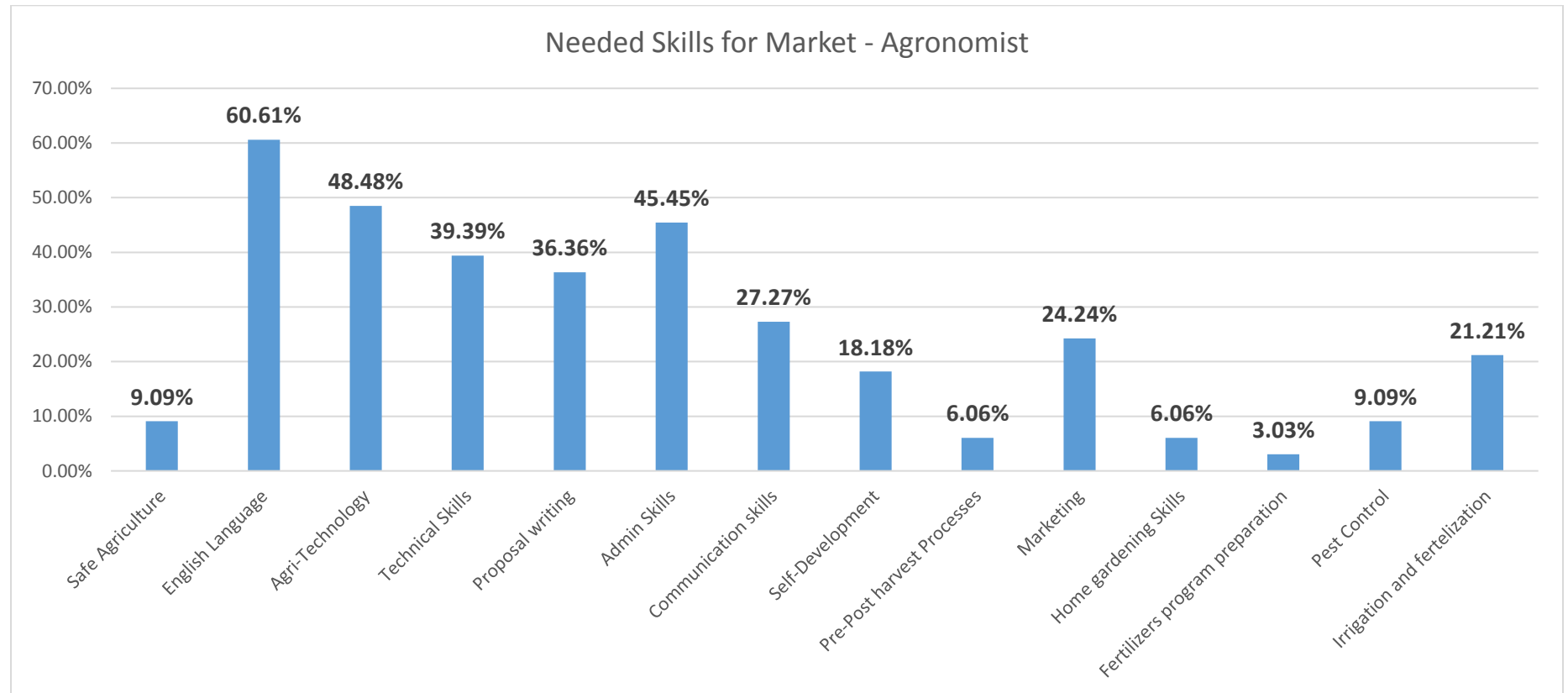






C7 - What are the most important skills from your point of view that the labor market needs

16. Needed Skills for Market:





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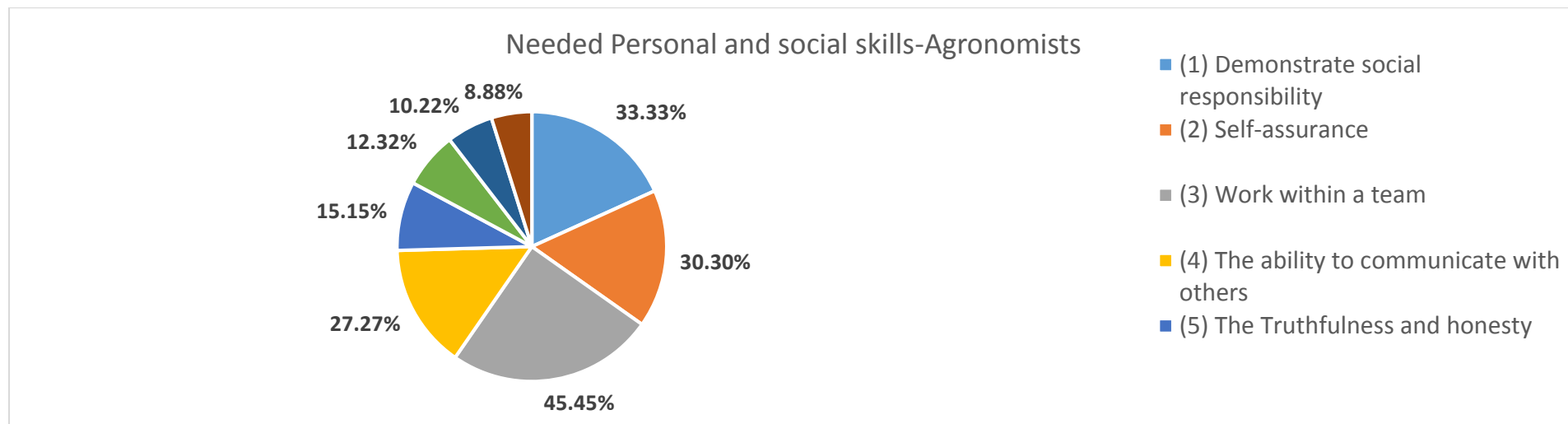


Safe Agriculture	9.09%
English Language	60.61%
Agri-Technology	48.48%
Technical Skills	39.39%
Proposal writing	36.36%
Admin Skills	45.45%
Communication skills	27.27%
Self-Development	18.18%
Pre-Post harvest Processes	6.06%
Marketing	24.24%
Home gardening Skills	6.06%
Fertilizers program preparation	3.03%
Pest Control	9.09%
Irrigation and fertilization	21.21%
Computer skills	15.15%



D1 - Needed Personal and social Skills-Agronomists – Priority

17. Needed Personal and Social skills:



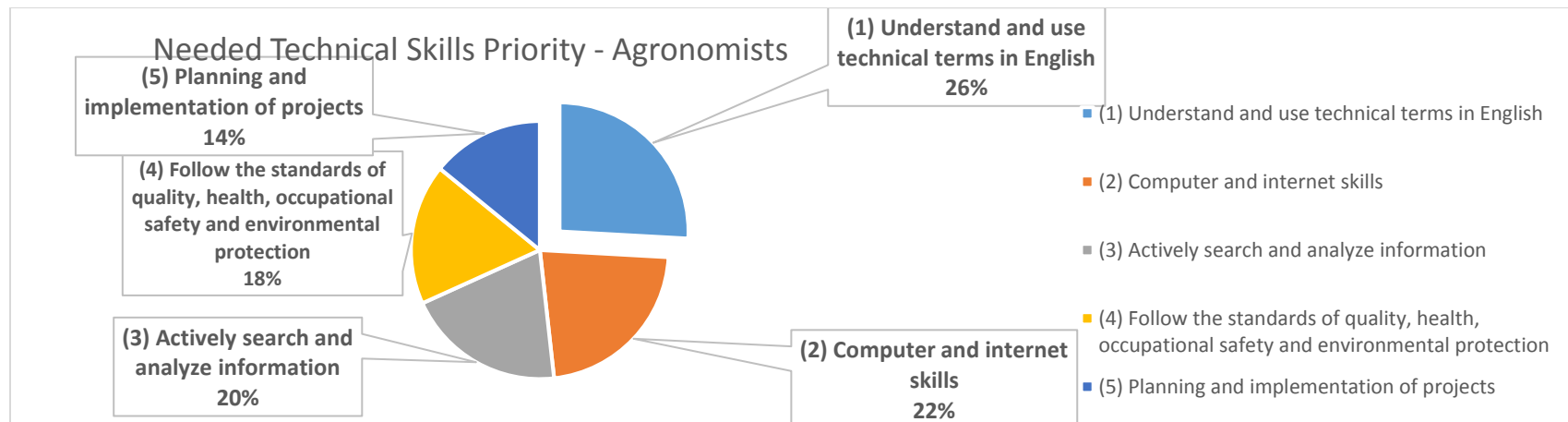
Conclusion: Personal and social skills needed – PARC is highly advised to focus on the following personal skills

(1) Demonstrate social responsibility	33.33%
(2) Self-assurance	30.30%
(3) Work within a team	45.45%
(4) The ability to communicate with others	27.27%
(5) The Truthfulness and honesty	15.15%
(6) Taking responsibility and a sense of duty	12.32%
(7) Positive Attitudes Towards Lifelong Learning	10.22%
(8) Constructively dealing with conflicts	8.88%



D2 – Technical skills that a graduate agricultural engineer needs for the labor market

18. Technical skills:



	(A) Actively search and analyze information	(B) Complete the job in accordance with technical standards	(C) The ability to accept and use modern technology	(D) Computer and internet skills	(E) Quality control and assurance	(F) Planning and implementation of projects	(G) Understand and use technical terms in English	(H) Evaluate, document and present the results	(I) Problem solving orientation	(J) Follow the standards of quality, health, occupational safety and environmental protection
1	51.52%	39.39%	30.30%	57.58%	24.24%	21.21%	66.67%	9.09%	15.15%	6.06%
2	12.12%	33.33%	33.33%	15.15%	36.36%	45.45%	54.55%	3.03%	33.33%	36.36%
3	6.06%	15.15%	12.12%	9.09%	30.30%	33.33%	36.36%	30.30%	45.45%	51.52%
4	15.15%	6.06%	12.12%	30.30%	21.21%	6.06%	15.15%	15.15%	21.21%	24.24%
5	0.00%	3.03%	9.09%	27.27%	18.18%	18.18%	9.09%	33.33%	27.27%	3.03%



Conclusion: technical skills needed – PARC is highly advised to focus on the following technical skills

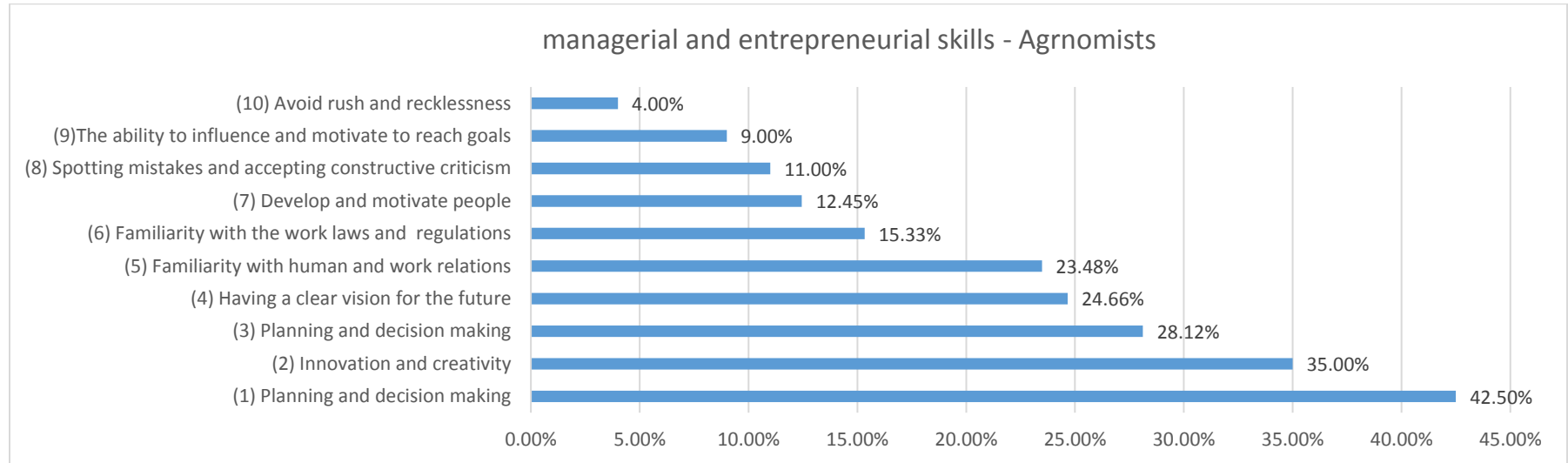
Summary

(1) Understand and use technical terms in English	66.67%
(2) Computer and internet skills	57.58%
(3) Actively search and analyze information	51.52%
(4) Follow the standards of quality, health, occupational safety and environmental protection	45.45%
(5) Planning and implementation of projects	36.36%



D3 - managerial and entrepreneurial skills – Agronomists

19. Managerial and Entrepreneurial skills:



Conclusion: managerial and entrepreneurial skills needed – PARC is highly advised to focus on the following managerial and entrepreneurial skills

(1) Planning and decision making	42.50%
(2) Innovation and creativity	35.00%
(3) Planning and decision making	28.12%
(4) Having a clear vision for the future	24.66%
(5) Familiarity with human and work relations	23.48%
(6) Familiarity with the work laws and regulations	15.33%
(7) Develop and motivate people	12.45%
(8) Spotting mistakes and accepting constructive criticism	11.00%
(9) The ability to influence and motivate to reach goals	9.00%

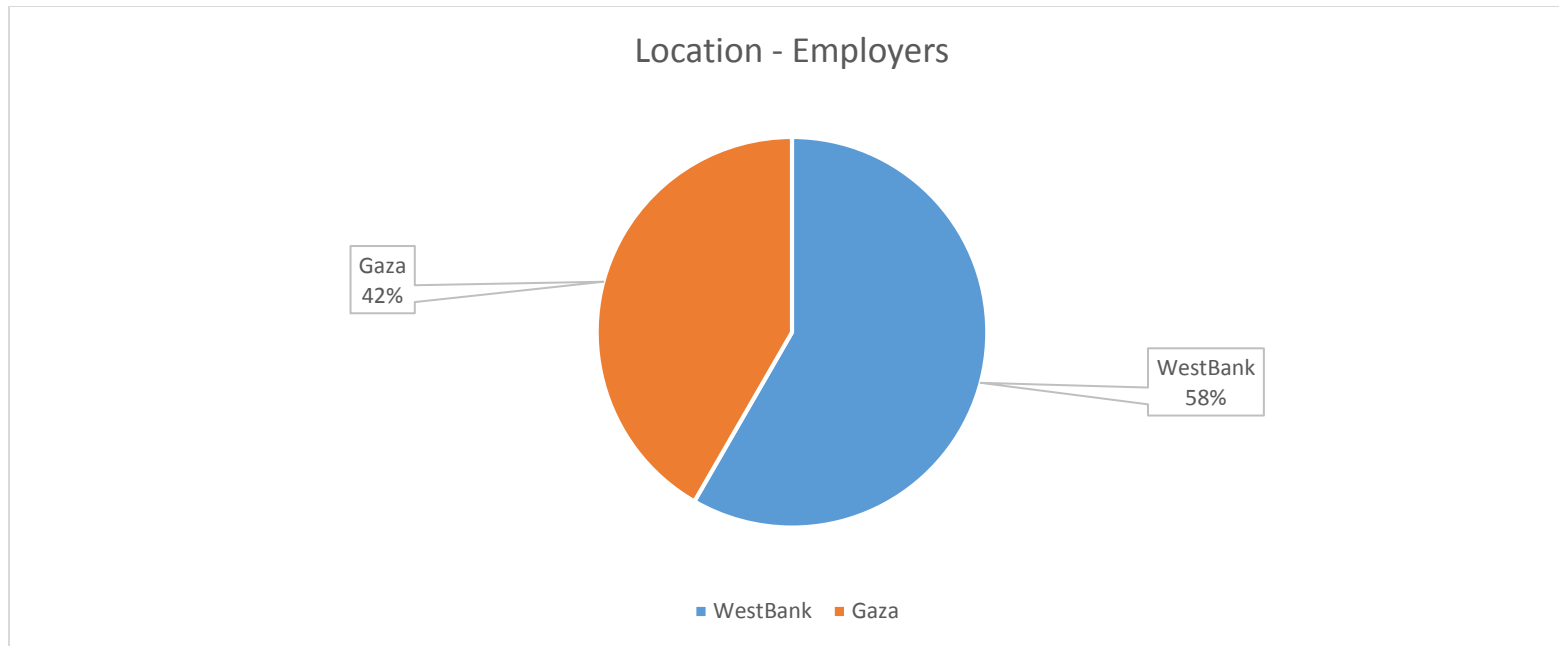


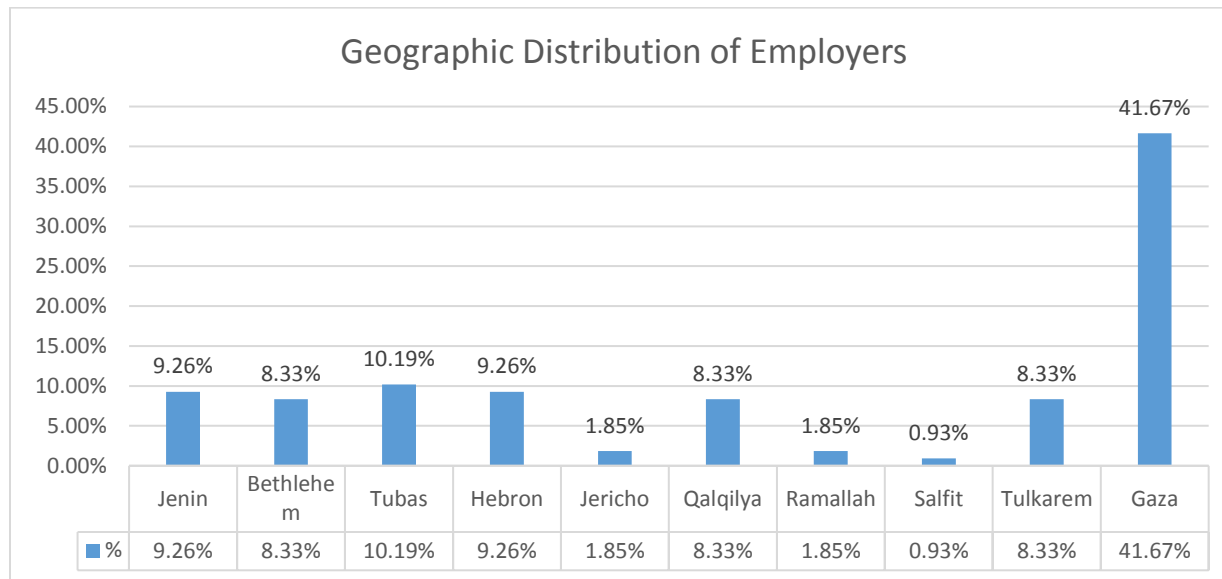
(10) Avoid rush and recklessness

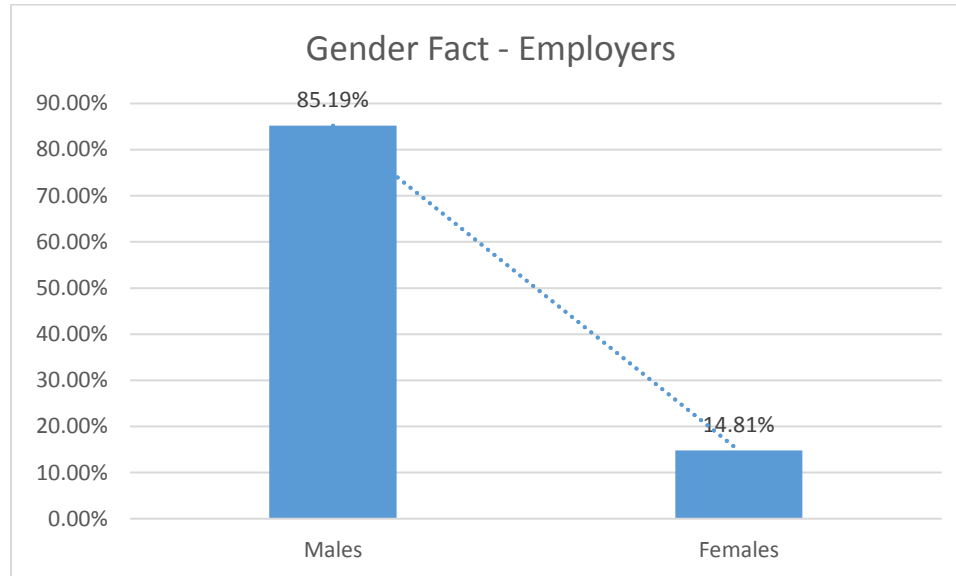
4.00%

6.2. Analytical over view on skills gap for employers

1. Geographic Distribution – Employers







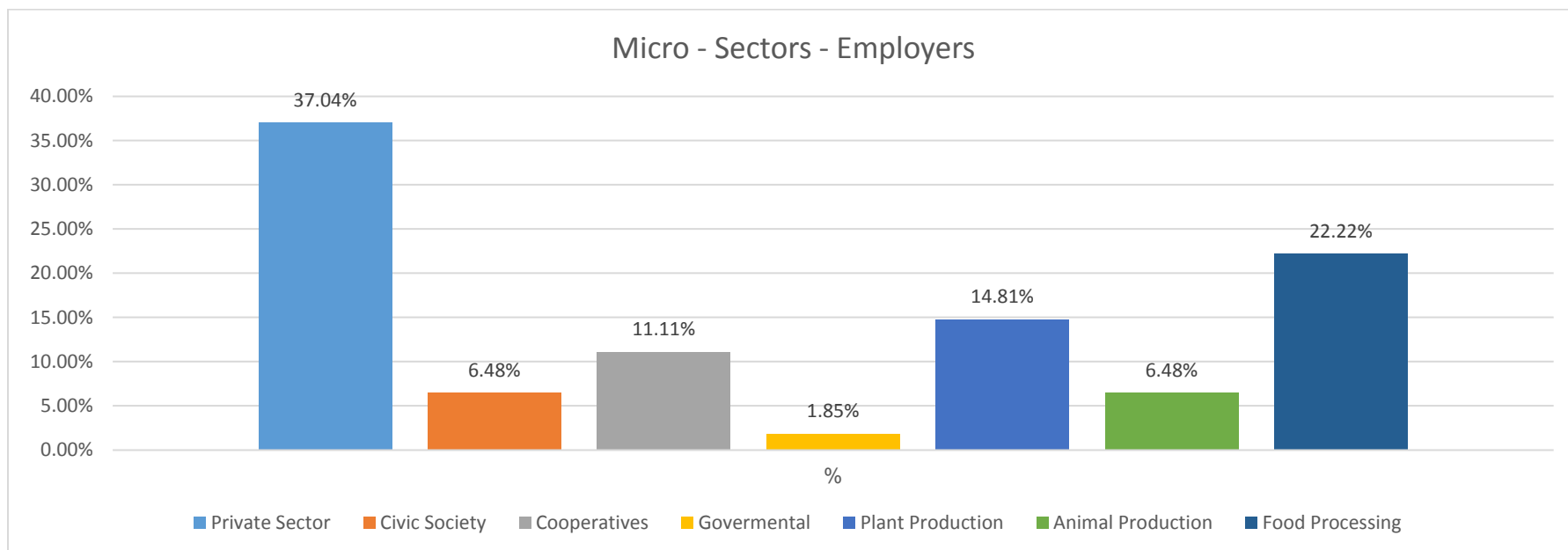
Age Range:

From 22 to 65

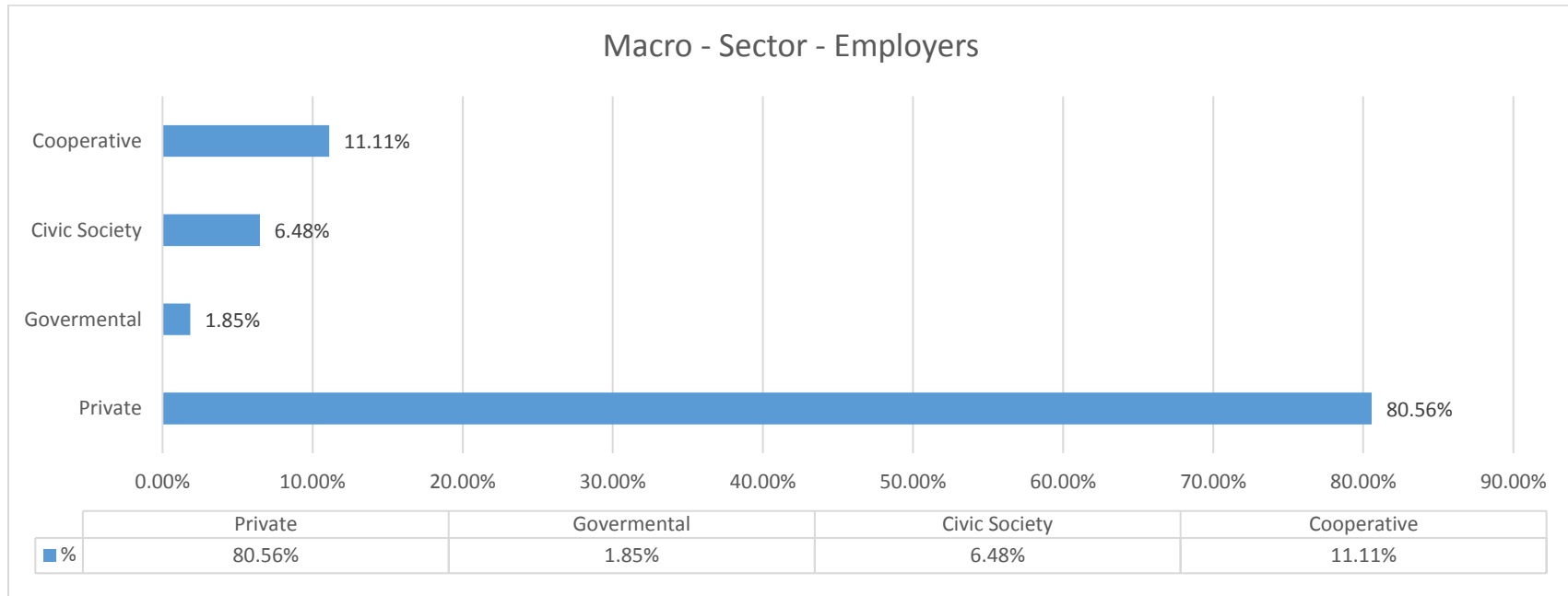
Age Avg: 43.5



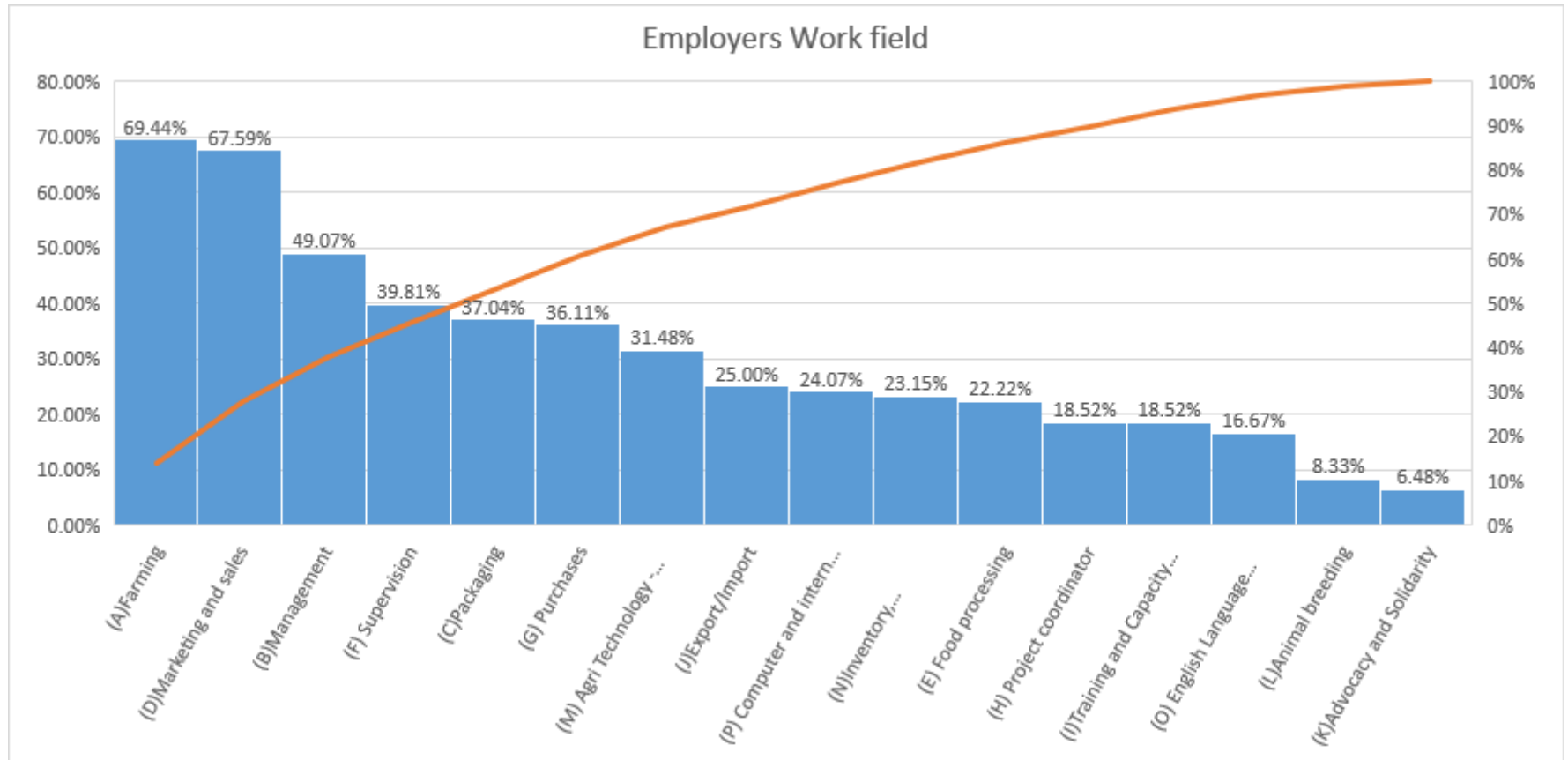
2. Employers Sectors:



Sector	%	
Private Sector	37.04%	40
Civic Society	6.48%	7
Cooperatives	11.11%	12
Governmental	1.85%	2
Plant Production	14.81%	16
Animal Production	6.48%	7
Food Processing	22.22%	24



80.56% from targeted Employers constitute private sector, in which conclude a necessity to focus on private sector hence it constitutes the majority of Palestinian employers, PARC is highly recommended to focus on private sectors employers and agronomists





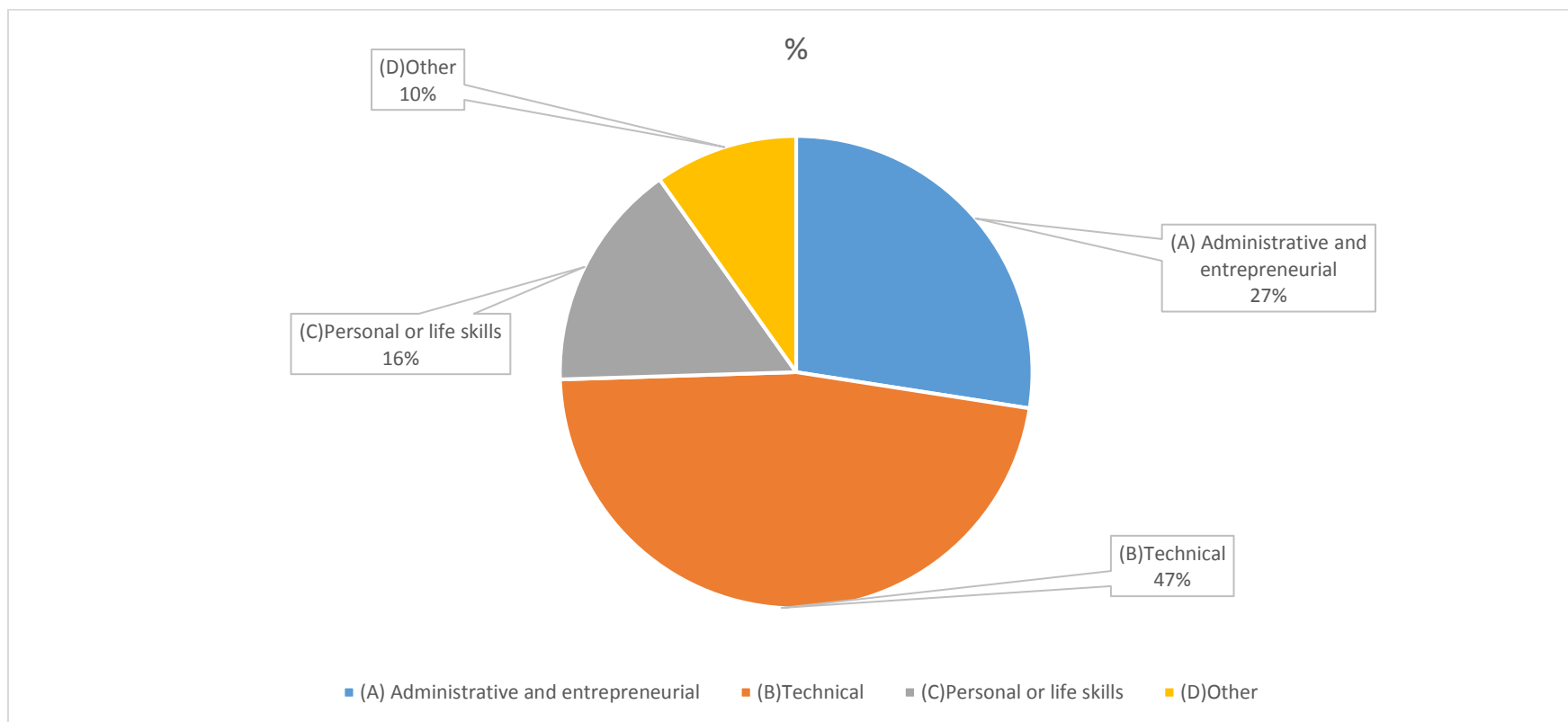
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Work Field	%	Count
(A) Farming	69.44%	75
(B) Management	49.07%	53
(C) Packaging	37.04%	40
(D) Marketing and sales	67.59%	73
(E) Food processing	22.22%	24
(F) Supervision	39.81%	43
(G) Purchases	36.11%	39
(H) Project coordinator	18.52%	20
(I) Training and Capacity building	18.52%	20
(J) Export/Import	25.00%	27
(K) Advocacy and Solidarity	6.48%	7
(L) Animal breeding	8.33%	9
(M) Agri Technology - Agribusiness	31.48%	34
(N) Inventory, refrigeration, and Storage	23.15%	25
(O) English Language reporting skills	16.67%	18
(P) Computer and internet skills	24.07%	26



3. Skills Challenges:



Conclusion:

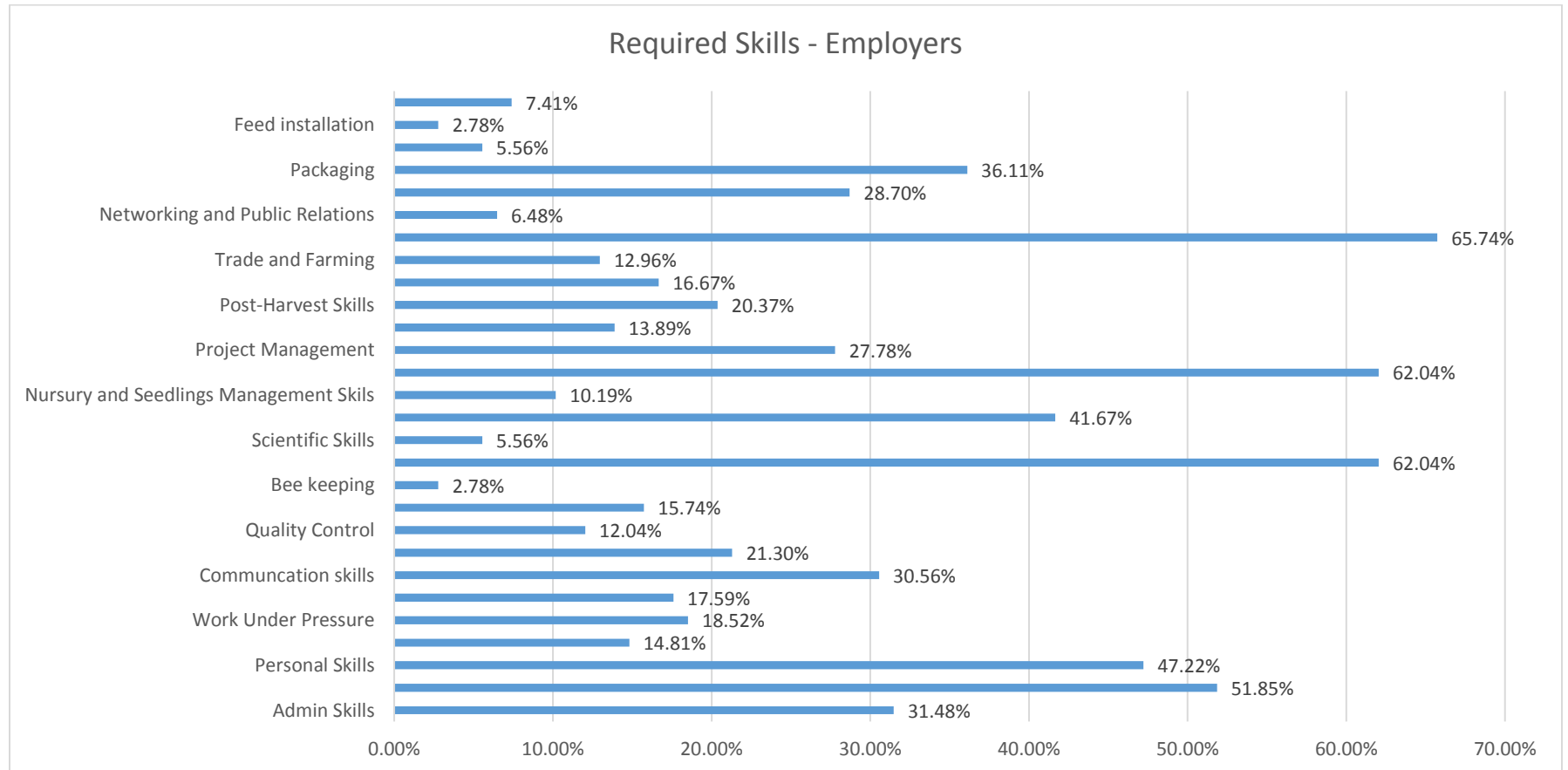
47% of Employers believe that the technical skills constitute a major challenge



What are the most important skills that led to your selection for hiring agronomists?

most important skill

4. Required Skills:





Required Skills	%	
<i>Admin Skills</i>	31.48%	34
<i>Technical Skills</i>	51.85%	56
<i>Personal Skills</i>	47.22%	51
<i>Taking Responsibility</i>	14.81%	16
<i>Work Under Pressure</i>	18.52%	20
<i>Pesticides</i>	17.59%	19
<i>Communication skills</i>	30.56%	33
<i>Marketing skills</i>	21.30%	23
<i>Quality Control</i>	12.04%	13
<i>Food Processing Skills</i>	15.74%	17
<i>Bee keeping</i>	2.78%	3
<i>Agri-Technology Skills</i>	62.04%	67
<i>Scientific Skills</i>	5.56%	6
<i>Problem Solving</i>	41.67%	45
<i>Nursery and Seedlings Management Skills</i>	10.19%	11
<i>English Reporting</i>	62.04%	67
<i>Project Management</i>	27.78%	30
<i>Computer Skills</i>	13.89%	15
<i>Post-Harvest Skills</i>	20.37%	22
<i>Storage and Cooling Skills</i>	16.67%	18
<i>Trade and Farming</i>	12.96%	14
<i>English Language</i>	65.74%	71
<i>Networking and Public Relations</i>	6.48%	7
<i>Proposal Writing</i>	28.70%	31
<i>Packaging</i>	36.11%	39
<i>Production lines skills</i>	5.56%	6
<i>Feed installation</i>	2.78%	3
<i>Knowledge in Standards and Specifications</i>	7.41%	8



Conclusion:

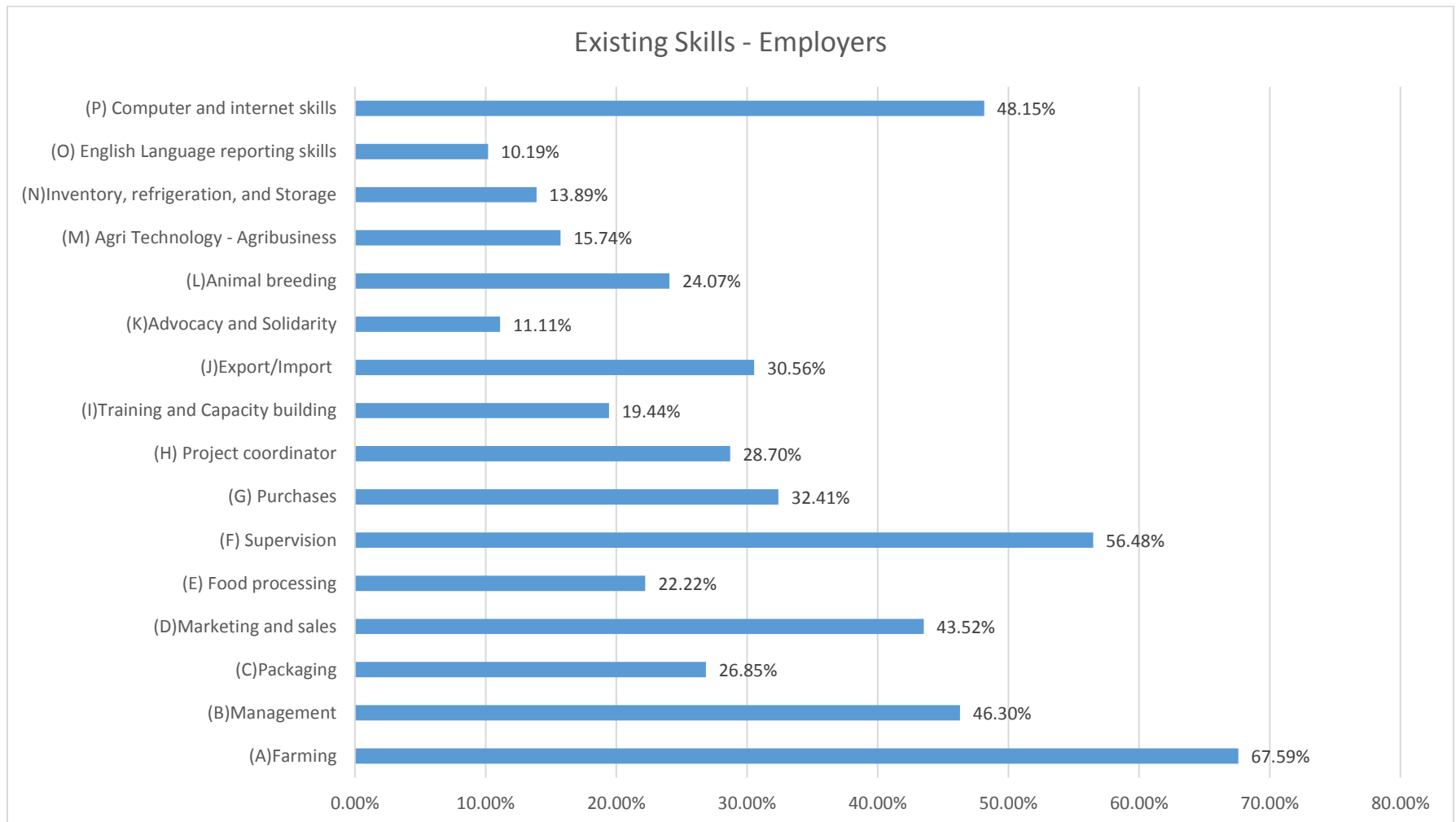
It is concluded that the following skills are important in the labor markets, as employers' answers regarding the skills that drive them to hire agronomists: -

- **English language reporting skills**
- **Agri-Technology skills**
- **Packaging and packing skills**
- **Technical skills**
- **Personal skills**
- **Communication skills**
- **Problem solving skills**



What skill does the agronomist in your company/institution have?

5. Employers Existing Skills:





Existing Skills - Employers	%	
(A) Farming	67.59%	73
(B) Management	46.30%	50
(C) Packaging	26.85%	29
(D) Marketing and sales	43.52%	47
(E) Food processing	22.22%	24
(F) Supervision	56.48%	61
(G) Purchases	32.41%	35
(H) Project coordinator	28.70%	31
(I) Training and Capacity building	19.44%	21
(J) Export/Import	30.56%	33
(K) Advocacy and Solidarity	11.11%	12
(L) Animal breeding	24.07%	26
(M) Agri Technology - Agribusiness	15.74%	17
(N) Inventory, refrigeration, and Storage	13.89%	15
(O) English Language reporting skills	10.19%	11
(P) Computer and internet skills	48.15%	52

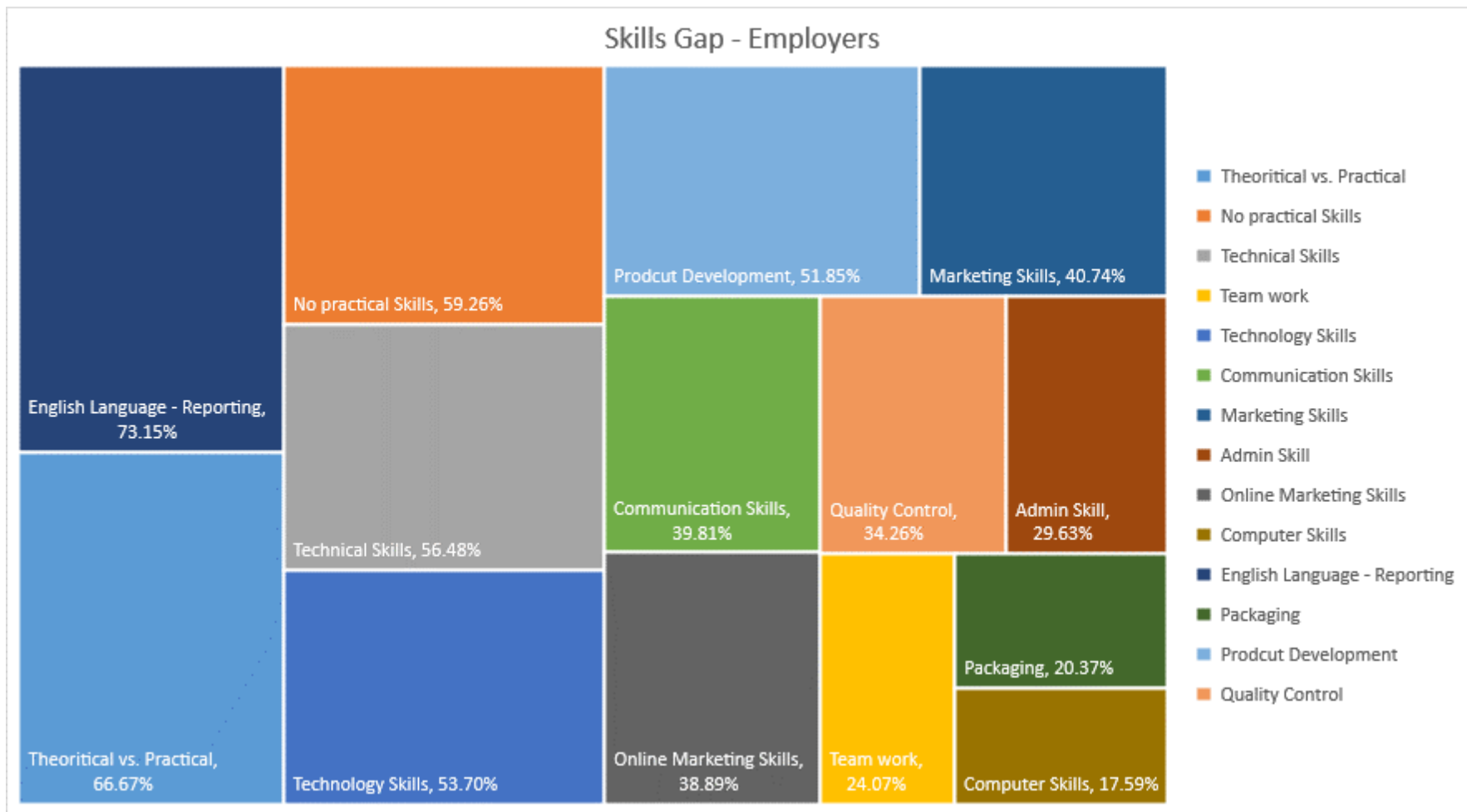
Conclusion:

The current and existing skills for working agronomists in the selected targeted employers: -

- Farming Skills
- Supervision skills
- Computer skills
- Marketing and sales
- Export/Import Skills
- Purchases skills



6. Employers Skills Gap





Conclusion:

From Employers point of view, the following skills constitute a crucial gap in the labor market: -

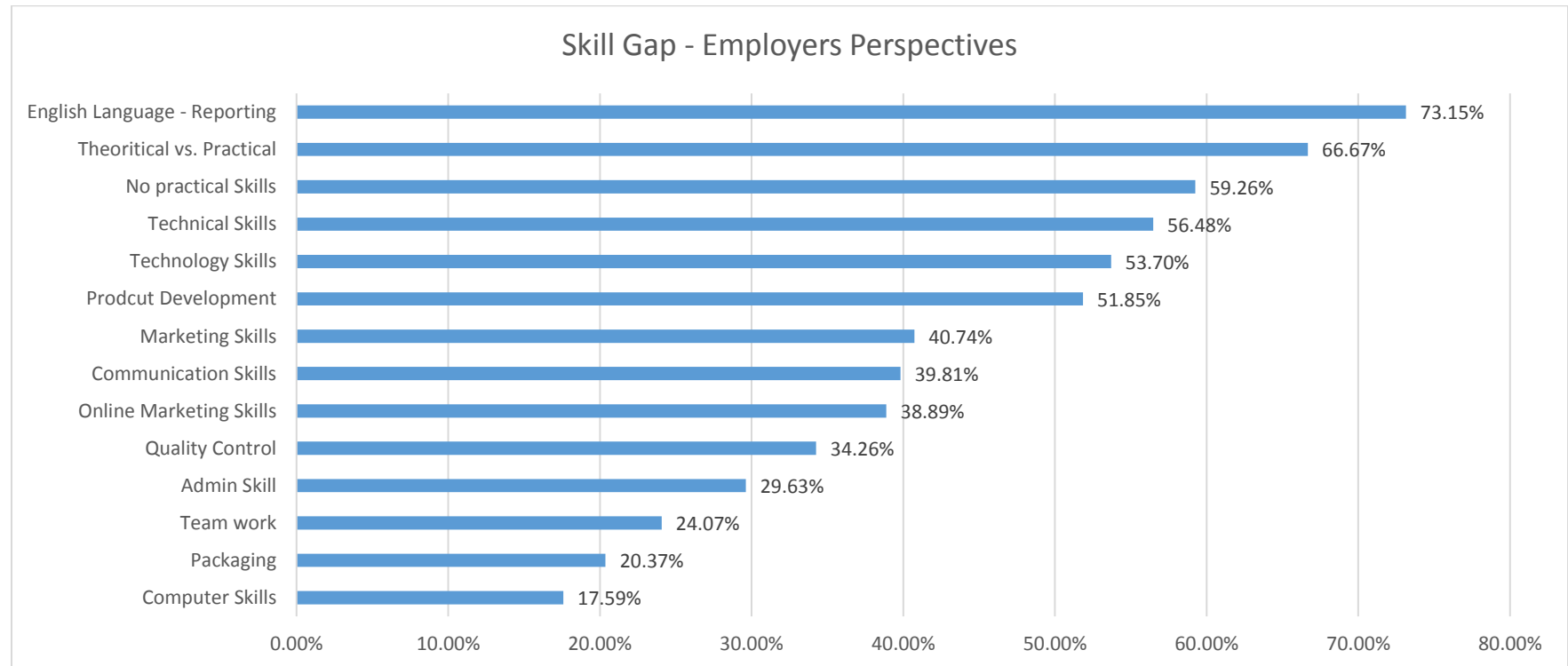
- **English Language Reporting Skills**
- **Theoretical vs. practical skills**
- **Technical skills**
- **Technological Skills**
- **Product Development skills**
- **Marketing Skills**



a. Employers Versus Agronomists Skill Gap

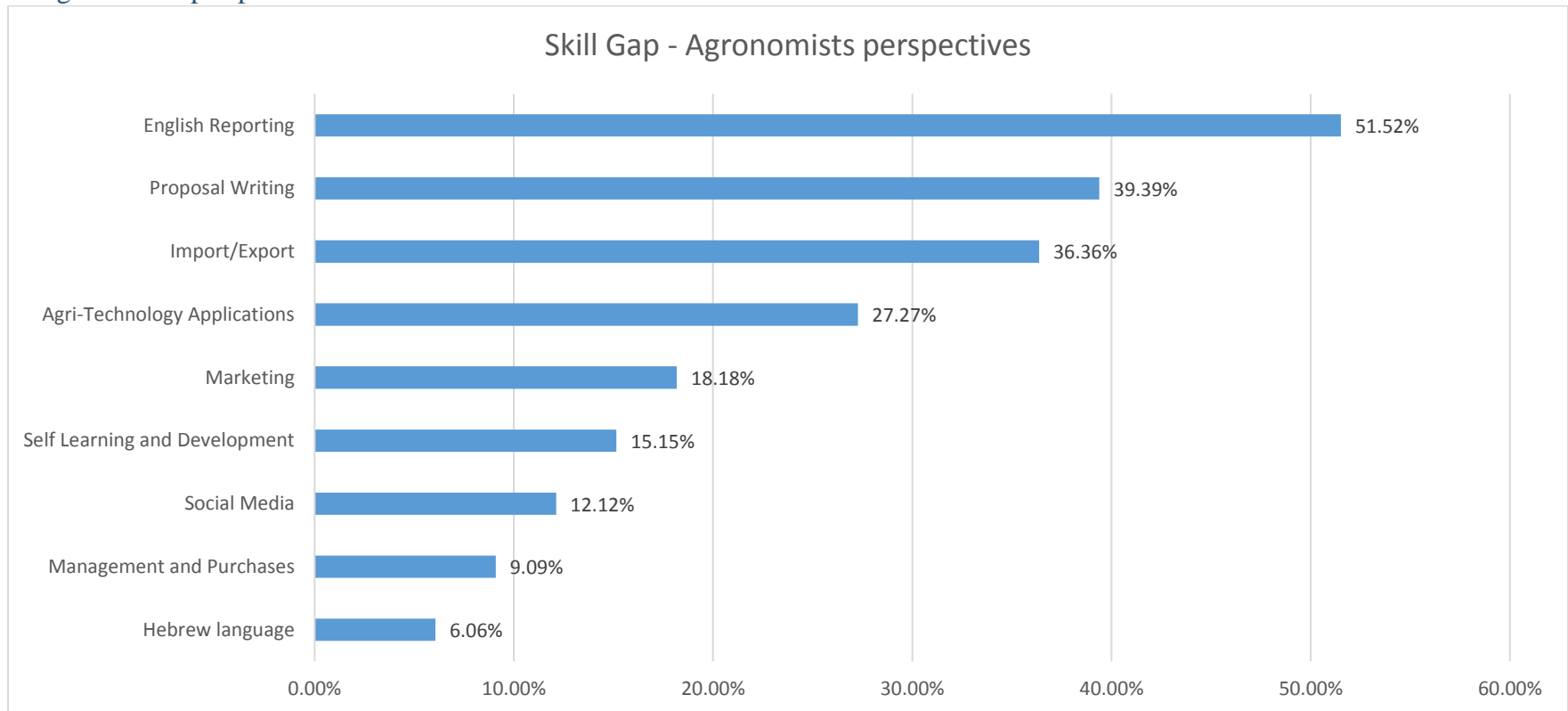
This Chart illustrate the skills gap from two perspectives, Employers perspectives vs. Agronomists perspectives

A-Skill gap employer perspectives:





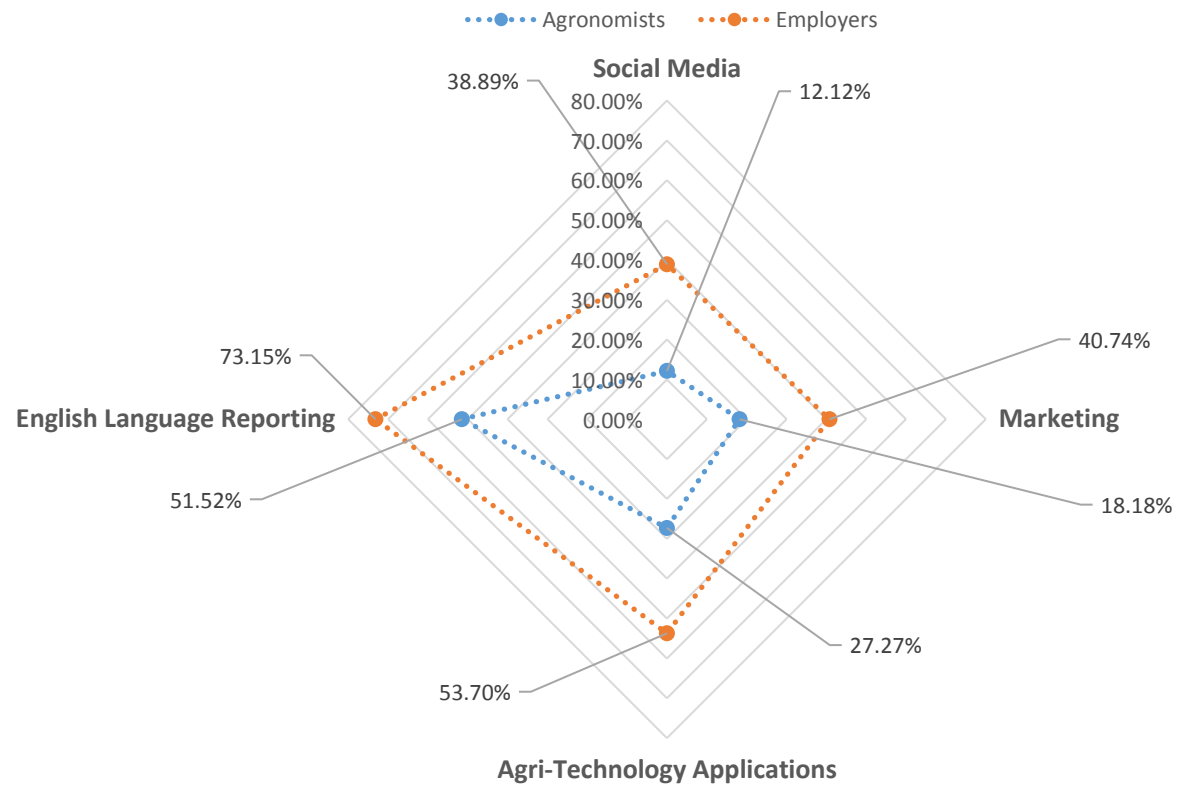
B-Agronomists perspective





Projection between the two tables will produce the skill gap that meets from both perspectives

EMPLOYERS VS. AGRONOMISTS PORJECTION - SKILL GAP



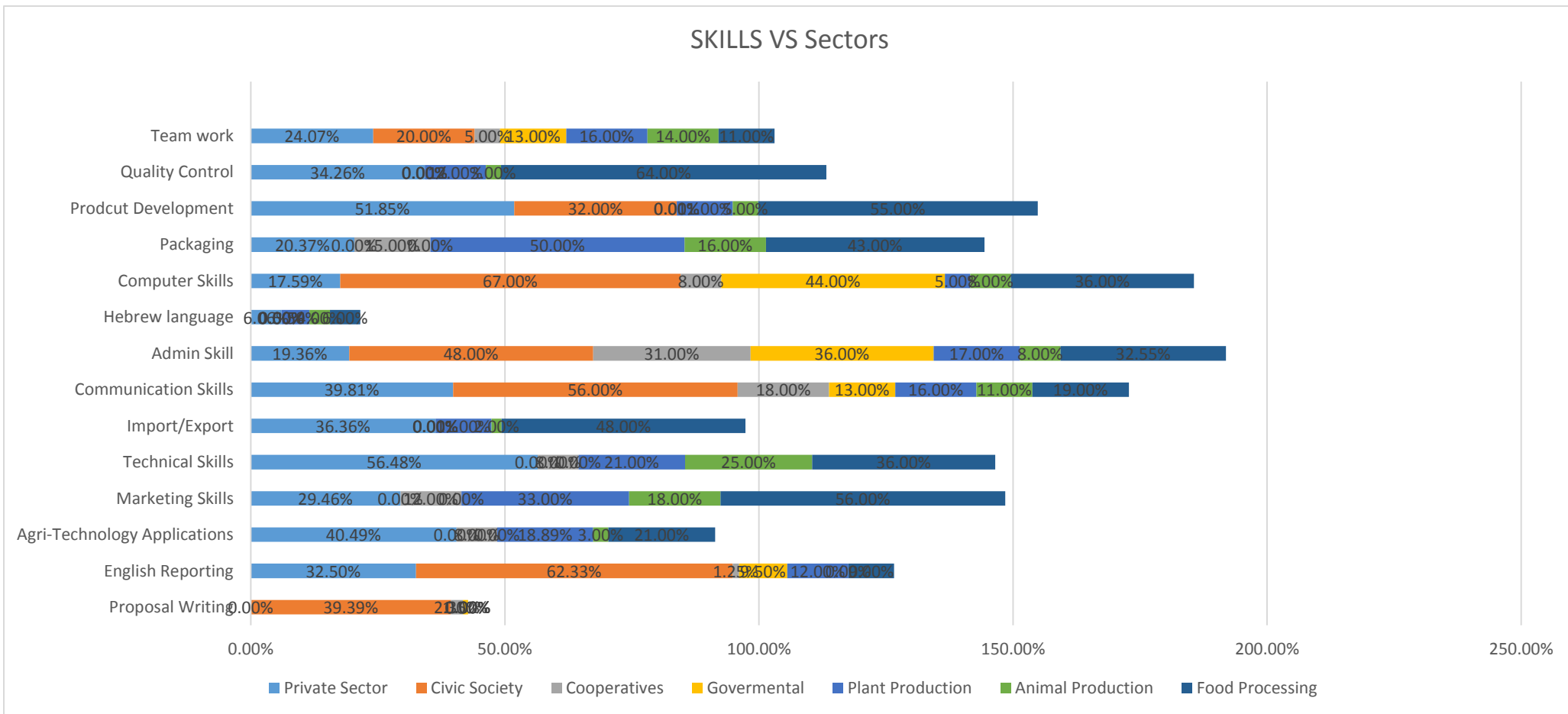


Skill Gap	Agronomists	Employers
Social Media	12.12%	38.89%
Marketing	18.18%	40.74%
Agri-Technology Applications	27.27%	53.70%
English Language Reporting	51.52%	73.15%

After Analyzing both employers and Agronomists responses regarding skill gaps, we have concluded the above 4 skills that both targeted groups agreed on.



C. Skills VS sectors:





SKILLS	Private Sector	Civic Society	Cooperatives	Governmental	Plant Production	Animal Production	Food Processing
Proposal Writing	0.00%	39.39%	2.35%	1.00%	0.00%	0.00%	0.00%
English Reporting	32.50%	62.33%	1.25%	9.50%	12.00%	0.00%	9.00%
Agri-Technology Applications	40.49%	0.00%	8.00%	0.00%	18.89%	3.00%	21.00%
Marketing Skills	29.46%	0.00%	12.00%	0.00%	33.00%	18.00%	56.00%
Technical Skills	56.48%	0.00%	8.00%	0.00%	21.00%	25.00%	36.00%
Import/Export	36.36%	0.00%	0.00%	0.00%	11.00%	2.00%	48.00%
Communication Skills	39.81%	56.00%	18.00%	13.00%	16.00%	11.00%	19.00%
Admin Skill	19.36%	48.00%	31.00%	36.00%	17.00%	8.00%	32.55%
Hebrew language	6.06%	0.00%	0.00%	0.00%	5.50%	4.00%	6.00%
Computer Skills	17.59%	67.00%	8.00%	44.00%	5.00%	8.00%	36.00%
Packaging	20.37%	0.00%	15.00%	0.00%	50.00%	16.00%	43.00%
Product Development	51.85%	32.00%	0.00%	0.00%	11.00%	5.00%	55.00%
Quality Control	34.26%	0.00%	0.00%	0.00%	12.00%	3.00%	64.00%
Team work	24.07%	20.00%	5.00%	13.00%	16.00%	14.00%	11.00%

6.3 STUDY CONCLUSION AND RECOMMENDATIONS:

The last workshop was held in Ramallah at the Agricultural Relief Headquarters on 09/26/2022 for governmental and non- governmental organizations regarding the labor and skills study of newly agronomists, which targeted five categories (Recent graduated agricultural engineers, agronomists, governmental institutions, semi-governmental institutions, and the agricultural educational sector).

Based on the analysis of collected data through interviews, field surveys, focus groups and workshops, the study concluded with the following results, conclusion and recommendations:

- 11- Concentrating training and capacity building on the areas of Jenin, Tubas, Jericho and Tulkarem.
- 12- Targeting more female agronomists for training and capacity building to balance the gender gap.
- 13- The four major specialties in the targeted agronomist respectively are: Agronomy, field supervision, Project coordination, and technical coordination.
- 14- 78.79% of work nature is technical while 60.61% is administrative.
- 15- 88% of targeted agronomists are members of the agricultural engineers' unions.
- 16- 69.70% of targeted agronomists believe that they face administrative skills obstacles and challenges, which leads to a conclusion that agronomist should be targeted with administrative and entrepreneurial skills.
- 17- 45.45% of targeted agronomist have skills in computer and internet, therefore, it is advised to exclude computer skills from training courses, while 30.30% believe that they are very good with communication skills.
- 18- On the other hand, targeted agronomists believe that they have gaps in: Public relations, English language, survey collection, business development and research skills.
- 19- 81.82% possess farming skills, where 72.73% are highly skilled in supervision activities.
- 20- **Skills Gap Conclusion:** PARC is highly advised to include the following skills in its curriculum to overcome the gap among targeted agronomists: English language, reporting skills, writing skills, import/export skills, Agri-technology skills and marketing skills.
- 21- The targeted agronomists concluded that the most important agricultural fields required in the Palestinian labor market as following: Modern agricultural technology, hydroponics, irrigation and fertilizers use, IPM, protected agriculture, packaging and packing operations, and products.

22- PARC is highly advised to focus on the following personal skills:

(1) Work within a team	45.45%
(2) Demonstrate social responsibility	33.33%
(3) Self confidence	30.30%
(4) The ability to communicate with others	27.27%
(5) The Truthfulness and honesty	15.15%



14- PARC is highly advised to focus on the following technical skills:

(1) Understand and use technical terms in English	66.67%
(2) Computer and internet skills	57.58%
(3) Actively search and analyze information	51.52%
(4) Follow the standards of quality, health, occupational safety and environmental protection	45.45%
(5) Planning and implementation of projects	36.36%

1- PARC is highly advised to focus on the following managerial and entrepreneurial skills

(1) Planning and decision making	42.50%
(2) Innovation and creativity	35.00%
(3) Planning and decision making	28.12%
(4) Having a clear vision for the future	24.66%
(5) Familiarity with human and work relations	23.48%

- 2- 80.56% of targeted Employers are from private sector, as they represent the majority of Palestinian employers. PARC is highly recommended to focus on private sectors employers.
- 3- 47% of Employers believe that the technical skills represent a major challenge for agronomists.
- 4- **Required Skills:** Employers concluded that the following skills are important for the labor markets: English language reporting skills, Agri-Technology skills, Packaging and packing skills, technical skills, personal skills, communication skills and problem-solving skills.
- 5- **Exciting Skills:** Employer concluded that the current and existing skills for working agronomists are: Farming skills, supervision skills, computer skills, marketing and sales, export/import skills and purchases skills.
- 6- **Skills Gap:** From Employers point of view, the following skills constitute a crucial gap in the labor market: English language reporting skills, theoretical vs. practical skills, technical skills, technological skills, product development skills and marketing skills.



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7- Employers VS. Agronomists projections skill gaps:

Skill Gap	Agronomists	Employers
Social Media	12.12%	38.89%
Marketing	18.18%	40.74%
Agri-Technology Applications	27.27%	53.70%
English Language Reporting	51.52%	73.15%

8- Skills vs. Sectors:

SKILLS	Private Sector	Civic Society	Cooperatives	Governmental	Plant Production	Animal Production	Food Processing
Proposal Writing	0.00%	39.39%	2.35%	1.00%	0.00%	0.00%	0.00%
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Quality Control	34.26%	0.00%	0.00%	0.00%	12.00%	3.00%	64.00%
Team work	24.07%	20.00%	5.00%	13.00%	16.00%	14.00%	11.00%



Recommendations at organizational and National Level:

The findings of the skills survey indicated that there is need for concerted, coordinated and practical efforts, as well as, strategy and investment to enhance skills development for the agriculture sector. The first step is the building a clear and strategic partnership between public and private sector players, as well as, enhancing the linkages between training institutions and the industry in the agriculture sector.

The following specific recommendations need to be implemented:

9. Establishment of Agri-Skills Living Laboratory (ASL):

The Agri-Skills Living laboratory are national partnership organization that will bring together all the stakeholders (Agronomists, public sector, NGO's, private sector, employers and the training and educational providers) for the common purpose of workforce development within the agricultural sectors including Agri-industrial sector. The sectors will be key in developing qualifications standards to ensure that the quality of trainees in technical schools, higher learning institutions and professional development stages are relevant and globally competitive. The ASL will also be the center mechanism for coordinating ATVET to provide work based on experiential learning for skills development.

10. Establishment of Skills Development Fund:

Skills development needs specific and adequate resource. In order to encourage investment in skills development, especially where there are severe skill gaps, the government can initiate a skill development financial support where employers have to contribute. The collected financial support is channeled into the Skills Development Fund (SDF), which provide grants to ATVET and partially to companies that send their graduates and workers for training.

11. Promoting Public-Private Partnership (PPP) for internships and skills programs:

Public-Private Partnership should be enhanced in Palestine to promote attachment, apprenticeship and internship opportunity for trainees and graduates. The strategies for this include following options:

- Development of a national Internship Policy, starting with an assessment of the existing programs to establish priority skills areas to be developed.
- The Government should consider motivating private companies to participate in internship through decreasing the industrial levies managed and/or tax rebates.
- Establish and mobilize partners to establish Internship Fund and establishments should apply for such funds on the basis of trainees they have offered internship.
- Identify top innovative and hardworking graduates in agriculture courses and take them abroad for 4-6 months' attachment in well-established agribusiness industries in the region.



12. Invest in Mentorship Programs for Agribusiness:

There is need to implement a national mentorship Programme for Agribusiness. Such a program should target young and innovative investors in the subsector by identifying and placing such investors for 3-6 months in identified establishments in Palestine. The selection of youths should be through a competition across the country. The Programme should be popularized through the media.

13. Increasing Supply Agriculture Extension Officers:

There is need to work with agriculture-oriented training institutions to train and develop more Agriculture Extension technicians. Some selected officers should also be trained in Agribusiness. Target training Extension Officers for export oriented crops and new emerging crops with potential for export like avocado, guava, grapes, medical crops and others. Such workers will be distributed to the districts in the country based on regional needs.

14. Investing in Research Stations and Pilot Farms:

There is need to invest in research and demonstration farm at the district level to provide a practical community training based on the priority cluster products. Training institutions need to study the best practices and adopt the same according to Palestine needs. These should be used as research and development facilities and to demonstrate

Effective utilization of skills in the value chain:

Production, processing, and marketing of horticulture, fruits; livestock and milk, processing; and marketing which includes branding, market research and export. The R&D facilities should target practicing farmers, private investors in agriculture and Agro-processing, students and researchers.

15. Promotion of Agricultural and Innovation Exhibitions:

Enhance the profile and participation in national agricultural shows and exhibitions. These should be conducted in a systematic way at the provincial level leading up to agricultural awards at the national level while encouraging participation from regional agriculture networks. This fosters collaboration knowledge sharing, promoting innovations and makes the outputs competitive for local and international consumption. Such show should be used to mobilize Palestine winners to participate in regional and international shows/exhibitions like: Fresh Fruit & Vegetable Business, International Flower Trade Expo, Dairy Conference and Exhibitions, Agribusiness Financing fairs.

16. Short term trainings with specific skills sector:

It is vital that short-term trainings curricula developed with strong intervention of the specific sector key experts. Also, training programs should not only be based on conventional lower level skills, such as memorization and recall, but help students and graduates develop higher-order thinking skills such as applying, analyzing, evaluating, and creating through allocation



of a greater portion of the training time to learning by doing. Along with the training programs, a scheme of quality control of the agenda and delivery should be applied.

17. Promoting Agriculture Business among Youth:

There is a tendency to look at the agriculture through a very narrow prism of production industry, whereas, it tends to an expanding, entrepreneurial, creative, opportunistic aspect of our economy and over time, in foreseeable future, it will offer fairly stable kinds of opportunities to maintain careers. Moreover, other “more stable” sectors of Economy will be closely interlinked to Food, Agriculture and related segments.

Today, more than before, climate change and a growing demand for nutritious food are for fresh ideas and renewed knowledge to explore ICT in, foster climate-smart and innovate in the sector to power future growth. Palestine possesses necessary human resources and expertise, and the solution is to involve young successful farmers to speak about themselves, bring validity to their generation’s mats and change the perception about the agriculture in the society.

18. Volunteering

While there have been numerous strategies for out of work persons to increase their chances of finding employment, such as acquiring additional training or education. There is little empirical literature to date on the extent to which volunteering can serve to maximize one’s chances of finding employment in Palestine.

19. Employers’ Smart Flexibility in Managing People

Employers, especially those of mainstream, need to be taught contemporary management techniques and take into consideration the types/age and interests of people working in their companies.

Managing “the way it goes” or with good old principles may be tricky and with all the best intentions, the results may be not that satisfying. “Best offer” that they suggest is different for employees of different age. Knowing how to form optimal compensation package is as important as knowing taxation or getting well with the balance sheet. It is recommended to support participating Employers with short training (modules) on people management and sourcing (much-tailored one).

20. Policy Review: Apprenticeships

As our study shows with regard to high demand of youth in opportunities to practice the knowledge on the one hand, and need of employers for more specific and relevant competences on the other hand, and also the speed of real changes possible in the education, the best-fitted solution can be introduction of modern apprenticeships.

The system has proven its effectiveness in many of those countries who are driving global GDP and are economically viable.



- The education system needs to take actions to increase the involvement of employers in the formative and summative assessments of students.
- More focus should be placed on the quality of general skills, such as foreign languages, communication, management, and IT skills. The relevant requirements should be reflected in the VET standards and curricula.
- The mechanisms of VET system cooperation with social partners should be expanded at both the national and local levels. Initiatives for the advancement of this cooperation should be promoted to the benefit of all involved: the education system, business community and individuals.
- Colleges to undertake/increase career guidance initiatives for the terminal years of compulsory education and lead projects “open days” for school graduates and their parents in sectorial enterprises and in VET institutions, should be among the priorities in the education system.
- Form database of the graduates formed by the project team for this study can be provided to the corresponding colleges to assist in the establishment of graduates’ databases for further tracer studies.



ANNEXES:

Enhancing sustainable livelihoods and inclusive economic opportunities in rural communities in the Opt. “ARDI II”

تعزيز سبل العيش المستدامة والفرص الاقتصادية الشاملة في المجتمعات الريفية في الأراضي الفلسطينية المحتلة

Funded by: The Ministry of Foreign Affairs of the Grand Duchy of Luxembourg

Terms of References # (PARC-21-2022-RFQ)

Labor Market Study in the agriculture sector in the West Bank and Gaza.

(دراسة لسوق العمل في قطاع الزراعة في الضفة الغربية وقطاع غزة)

Implemented by:
Agricultural Development Association (PARC)

March 2022



1. About Agricultural Development Association (PARC):

PARC is a national developmental non-governmental organization that was established in 1983. PARC strives to develop the agricultural sector, strengthen the resilience of farmers, reach out to the poor and marginalized groups and their CBO's, mobilize and develop the capabilities of rural people to enable them to control their resources, through the work of a distinguished professional teams and a loyal volunteer. This has been accomplished through creative programs and transparent management and through technical practices to contribute to the establishment of a free and democratic Palestinian society with the values of social justice. PARC has four main programs; natural resources, social economic empowerment, resilience and lobbying and advocacy.

2. Objectives of the Study:

The main objective of the study is to conduct an agriculture employer mapping in term of the needed skills in working fields among the agronomists, as well as to identify the skills gaps matrix in the agriculture sector in the West Bank and Gaza Strip. It is worth noting that in the West Bank the study will focus on specific value chains, whereas in Gaza Strip it will be done in a sectorial manner.

In specific, the current study seeks to achieve the following objectives:

- Updating the employer mapping in the agriculture sector with detailed and up to date information including the technical gaps in the field.
- Updating the skills matrix of the agriculture related graduates, and pinpointing the main skills gaps.
- Identify/update and map the skills gaps, drivers, dynamics, challenges, and needed skills (technical and interpersonal skills) in the labor market for farmers, women, technicians, and agronomists, with projections for the upcoming years as well. With special focus on agronomists.
- shed light on the most prominent constraints and opportunities, on market actors and dynamics, including gender and governance dynamics, of the selected value chains/ sectors including natural resources for climate change, women and youth employability, etc. (for the use in other outcomes) for small agribusinesses.

The value chains that will be studied in the West Bank are:

- Hebron: Grapes (in addition to processing), dairy production.



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- Jenin and Tubas: Vegetables value chain (tomato, cucumber, قرعيات و ورقيات, Almond).
- Jericho: dates and seedless grapes.
- Tulkarem and Qalqilya: Guava and Avocado.

- Additional focus: technical skills in factories, Agri tech.

In Gaza Strip the study will be sectorial (covers the whole agriculture sector).

Important note:

The winner of this tender will receive a similar study that have been carried in PARC which will form the baseline of the current study.

3. Scope of Work:

- Identify the nature of agriculture labor market.
- Identify the set of skills needed by the Agriculture Labor market participants with a specific focus on youth and farmers, and to highlight the gaps in skills provision.
- Determining the life skills, administrative, personal and social skills gaps for newly graduated agronomists.
- Determining the technical and specialized agricultural skills gaps for newly graduated agronomists, farmers, women, and technicians with projections for the upcoming years as well. With special focus on agronomists.
- Determining the gaps in the theoretical and scientific-technical skills and between the practical application gaps for agronomists.

Giving that the labor market study is dynamic and ever change and to enable PARC to properly plan for future interventions, PARC sought to update agriculture employer mapping, as well as to update the skills gap matrix in the agriculture sector.

4. Methodology:

It is the responsibility of the consultant to propose a detailed and logical approach and methodology for conducting the required tasks. However, the consultant should work within the guidelines showed below:

4.1 Inception Phase:

This phase includes the following:



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- Meeting with PARC team to decide on the logical flow of the study and to set a clear road map to satisfy the objectives of the study.
- Conducting desk review of related studies, statistics, and official data (PARC is to receive a list of references, a copy of all documents reviews, and a summary report of the desk review stage)
- Submitting draft data collection tools.

- Submitting inception report including final approved data collection tools and updated methodology.

4.2 Mapping Related Stakeholders:

At this stage, PARC is expected to obtain a clear list of related stakeholders to be involved in the study. This is expected to cover representatives of private sector, representatives of the government, etc. PARC also expects the involvement of the related stakeholders in the study. We will provide a list of possible stakeholders.

4.3 Data Collection:

PARC expects the consultant to collect sufficient data from primary resources as identified in the mapping stage.

4.4 Data Entry, Validation and Analysis:

The consultant should propose the proper scheme for analyzing the collected data, and how he/she is planning to identify the relationships among the collected data from the different sources.

4.5 Reporting

The consultant will report directly to PARC project manager and provide periodic progress report. The consultant should also provide a clear breakdown of the final report contents showing a clear presentation of how it will contribute to satisfying the objectives of the study, noting that all results should be identified with specific attention to aspects of gender and location. The final report and its annexes should be presented in English.

5. Key Deliverables:



At the end of the study, PARC expects to receive the following:

- Desk review report showing consultant understanding of the study and including an indication of the main focus areas that the consultant is planning to undertake in the study.
- Inception report including final summary of the desk review report, data collection tools, and updated methodology.
- Updated and detailed employer mapping list.
- Updated skills gap matrix properly defined and segregated according to the different specializations.
- Approved data collection tools.
- Raw data, and data entry sheets.

6. Contracting Authority

Agricultural Development Association (PARC) is the contracting party and is considered as the contracting authority that will be responsible for contracting, monitoring and follow up of the agreed services.

7. Qualifications of the Consultant:

The Consultant must have the resources, ability and technical expertise to develop the market labor study. The proposed consultants should have the following minimum requirements:

- Strong background in market studies, and especially in agriculture market.
- Good knowledge of local agriculture market.
- Excellent background on market studies proved by at least one sample market study.
- Good public relations network with private and public sector institutions operating specially in Gaza Strip.
- Fluency in writing skills in English, as the report needs to be submitted in English.

8. Duration of the Study:

The assignment is expected to be finalized within (30-45) calendar days starting from the date of signing the contract.

9. Financial Offer:



The submitted offers should be in Euro including VAT. The tenderer should be able to issue VAT invoice in addition to deduction at source certificate (شهادة خصم مصدر) or PARC will deduct a percentage of the final payment according to Palestinian Taxation department & laws. The consultancy firm should be a registered company with authorized dealer number and specialized in this field and to be able to issue VAT invoice in addition to certificate of deduction at source.

10. General instruction to the tender:

- ✓ The price offer must comply with the standards and requirements set out in the price offer.
- ✓ The submitted offer is binding to the Supplier nor the tender offer may be withdrawn after submission and remains binding by a period of three months starting from the date of the offer.
- ✓ Price offer documents delivered by hand.
- ✓ The tender envelop must be sealed and stamped.
- ✓ Tender must stamp all bid papers.
- ✓ The tenderers should be a registered company with authorized number and specialized in this field
- ✓ Company Registration certificate (Commercial Record Extractor / Corporate Monitor).
- ✓ Company profile showing the company's capabilities.
- ✓ An organizational (human resources) chart (must include board members and financial managers).
- ✓ Delays: PARC will deduct 50 Euro for each day of delay in completion of the work after completion period for not more 20% of the value of the contract.
- ✓ PARC shall have the right to deduct any amounts from the contract value if the studies are not in the required level in terms of content, arrangement, supporting materials.
- ✓ In case of any scrap or deletion in the offer without the signature and sealed behind the edited item is entitled to PARC cancelling this offer.
- ✓ The cost of advertisement in electronic site on the awarded tender winner.

11. Evaluation Criteria:

No.	Evaluation Criteria	Points (Max.)
1.	Technical Proposal	70%



1.1	Methodology	25%
1.2	Assignment understanding	15%
1.3	Team composition and experience	20%
1.4	Company experience (Profile)	10%
2	Financial Proposal	30%
Total		100%

Note: only technical offers which will get above 52/70 in the technical score, will be financially evaluated.



12. Proposal Submission Date:

The tenderers have to submit the following documents in hard copies by hand:

- Technical proposal with all supporting documents (Curriculum Vitae of the team leader, Curriculum vitae of the consulting team, previous experiences, detailed methodology, detailed implementation plan with time period, and examples of previous studies.
- Detailed financial offer (signed and stamped).
- Any other important documents.
- The financial offer should be sperate from the technical offer. One outer envelope should contain two sealed and separate envelopes; one for the technical offer and the other for the financial offer.
- The proposals should be in a sealed and stamped envelope.
- The outer envelope should contain two sealed envelopes; one for the technical offer and the other for the financial offer.

The proposal should be submitted ONLY to PARC headquarter in West Bank **no later than (2:00 PM) on Monday the 28th March 2022** to the following address:

Palestinian development Association (PARC)

Headquarter - 1st floor

Alma'ahed St., Ramallah – West Bank, Telephone: +970 (2) 2963840

Noting that late applications will not be accepted.

The clarification meeting will be held through ZOOM, Monday 21/03/2022 at 10:00 am

<https://us02web.zoom.us/j/84239247456?pwd=Wi9KUWZvM3ZRcmhDbHc5NVFhdEVMZz09>

13. For inquiries, you may contact the project team on:

Email: loay@pal-arc.org & arafat.hanani@pal-arc.org

Telephone: +970 (2) 2963840



عزيزتي/عزيزي تحية واحترام،

تقوم جمعية التنمية الزراعية (الابغاثة الزراعية) بدراسة فجوة المهارات لدى المهندسين الزراعيين حديثي التخرج وسوق العمل. ومن اجل هذا الهدف تم تصميم الاستثمارة التي بين يديكم وهي إحدى الأدوات المستعملة في البحث. البيانات التي سيتم جمعها هي من اجل البحث فقط وسيتم الالتزام بها بسرية تامة، حيث سيتم من خلالها التعرف على أبرز المهارات والكفايات المطلوبة لدى المهندسين الزراعيين حديثي التخرج والتي تتناغم مع احتياجات سوق العمل الفلسطيني. وبناء عليه يرجى التكرم بتعبئتها من واقع خبرتكم وتقديركم لتحديد نوع ومستوى هذه المهارات.

شكرا لتعاونكم ووقتكم

فريق البحث



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استبيان رقم (١):

Employee Agronomist /Old))

مهارات المهندس الزراعي المطلوبة لسوق العمل خاص بالمهندس الزراعي العامل

الاسم: رقم الجوال:
تاريخ المقابلة: / /

#	الجزء الأول: معلومات عامة
١	معلومات عن المنشأة: (حكومية/ أهلية، شركة، محل تجاري، مزرعة، محل بيع أو تسويق وما شابه): اسم المنشأة: الهاتف: المحافظة: المدينة: /القرية: المسمى الوظيفي: الأنشطة الاقتصادية ومجالات العمل للمؤسسة: ١. ٢. ٣.
٢	معلومات عن المهندس الزراعي: العنوان: المحافظة: المدينة: القرية: الجنس: ذكر () انثى () عدد افراد الاسرة: التخصص: انتاج نباتي () انتاج حيواني () تصنيع غذائي () تربة ومياه () بيطرية () اسم الجامعة التي تخرجت منها: اسم الكلية: عدد سنوات الخبرة: مجال الوظيفة: إدارية () فنية مهنية () أخرى () طبيعة الوظيفة: دوام كامل () دوام جزئي: () اخر: () العضوية: هل انت عضو في نقابة المهندسين الزراعيين () عضو في جمعية () أخرى (وضح): () معدل الراتب الشهري:
٣	واقع التحديات والمشاكل المتعلقة بالمهارات والكفايات التي واجهتها او لا زلت تواجهها كمهندس الزراعي: ما هي أكثر التحديات المتعلقة بالمهارات التي واجهتها او لا زلت تواجهها كمهندس زراعي: <input type="checkbox"/> إدارية وريادية: <input type="checkbox"/> فنية مهنية:



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<p>□ شخصية حياتية:</p> <p>ما هي التي المهارات التي تميزت بها مقارنة بالمهندسين الاخرين وأدت الى اختيارك للوظيفة:</p> <p>..... -١</p> <p>..... -٢</p> <p>..... -٣</p> <p>هل تعتقد ان افتقار المهندس الزراعي للمهارات اللازمة يزيد من نسبة البطالة لدى أوساط المهندسين؟ نعم () لا ()</p>	
<p>٤ حاجة سوق العمل للمهارات والكفايات نتيجة التطور المستقبلي:</p> <p>ما هي اهم المهارات من وجهة نظرك يحتاجها سوق العمل نتيجة التطور المستقبلي في مجال التوظيف للمهندسين الزراعيين</p> <p>..... .١</p> <p>..... .٢</p> <p>..... .٣</p> <p>..... .٤</p> <p>..... .٥</p> <p>..... .٦</p> <p>..... .٧</p> <p>..... .٨</p> <p>..... .٩</p> <p>..... .١٠</p>	



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<p>اهم المجالات الزراعية المطلوبة في سوق العمل الفلسطيني حسب الاولوية:</p> <p>اعداد التربة للزراعة</p> <p>اختيار الأصناف والاشتال</p> <p>تطعيم الخضار والفاكهة بما فيها الاستوائية</p> <p>الزراعة المائية</p> <p>الري والاسمدة</p> <p>مكافحة الآفات الزراعية</p> <p>القطف ومعاملات ما بعد الحصاد:</p> <p>عمليات التعبئة والتغليف</p> <p>التصنيع الغذائي</p> <p>تسويق المنتجات</p> <p>المحاصيل التصديرية:</p> <p>الارشاد الزراعي</p> <p>التكنولوجيا الزراعية الحديثة</p> <p>الزراعات التصديرية</p> <p>الزراعة المحمية</p> <p>أخرى:</p>	٥
الجزء الثاني: المهارات والكفايات	
<p>ما هي المهارات الشخصية والاجتماعية التي يحتاجها المهندس الزراعي الخريج لسوق العمل حسب الاولوية؟</p> <p><input type="checkbox"/> الصدق والأمانة</p> <p><input type="checkbox"/> الثقة بالنفس</p> <p><input type="checkbox"/> تحمل المسؤولية وحس الواجب</p> <p><input type="checkbox"/> التعامل بشكل بناء مع الصراعات</p> <p><input type="checkbox"/> الاتجاهات الإيجابية نحو التعلم مدى الحياة</p> <p><input type="checkbox"/> الاتجاهات الإيجابية نحو المهام و العمل و الحياة</p> <p><input type="checkbox"/> العمل ضمن فريق</p> <p><input type="checkbox"/> إظهار المسؤولية الاجتماعية</p> <p><input type="checkbox"/> القدرة على التواصل مع الآخرين</p> <p><input type="checkbox"/> إظهار المسؤولية الاجتماعية</p>	١



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٢	ما هي المهارات الاحترافية التي يحتاجها المهندس الزراعي الخريج لسوق العمل حسب الاولوية؟ <input type="checkbox"/> البحث بشكل فاعل عن المعلومات وتحليلها <input type="checkbox"/> إنجاز المهمة وفقا للمعايير الفنية <input type="checkbox"/> القدرة على تقبل واستخدام التكنولوجيا الحديثة <input type="checkbox"/> مهارات استخدام الحاسوب والانترنت <input type="checkbox"/> مراقبة وضمان الجودة <input type="checkbox"/> تخطيط وتنفيذ المشاريع <input type="checkbox"/> فهم واستخدام المصطلحات الفنية بالإنجليزية <input type="checkbox"/> تقييم النتائج وتوثيقها وعرضها <input type="checkbox"/> استكشاف الأخطاء وإصلاحها <input type="checkbox"/> إتباع معايير الجودة والصحة والسلامة المهنية وحماية البيئة.
٣	ما هي المهارات الإدارية والريادية التي يحتاجها المهندس الزراعي الخريج لسوق العمل حسب الاولوية؟ <input type="checkbox"/> امتلاك رؤية واضحة للمستقبل <input type="checkbox"/> التخطيط واتخاذ القرار <input type="checkbox"/> الابتكار والأبداع <input type="checkbox"/> القدرة على التأثير والتحفيز للوصول إلى الأهداف <input type="checkbox"/> اكتشاف الأخطاء وتقبل النقد البناء <input type="checkbox"/> تطوير الأفراد وتحفيزهم <input type="checkbox"/> تجنب الاندفاع و التهور <input type="checkbox"/> القدرة على المتابعة <input type="checkbox"/> الإلمام بالعلاقات الإنسانية وعلاقات العمل <input type="checkbox"/> الإلمام بالقوانين المنظمة للعمل
٤	تدريبات تلقيتها في مجال تطوير المهارات قبل او اثناء الوظيفة: ١ ٢ ٣ ٤ ٥
٥	اية اقتراحات وتوصيات أخرى: ١



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..... ٢	
..... ٣	
..... ٤	
..... ٥	
..... ٦	أسئلة عامة:
..... ١	الرجاء توضيح خبرتك بالعمل في بضع كلمات:
..... ٢	ما مدى تأثرك بجائحة كورونا؟
..... ٣	الرجاء التعبير عن مدى رضاك من عملك ببضع كلمات:
..... ٤	ما هي الحوافز التي تشجعك على البقاء في عملك؟
..... ٥	لو كنت من أصحاب القرار ما هي الإجراءات التي يمكن اتخاذها من اجل تطوير كفاءة ومهارات المهندسين الزراعيين؟

نشكركم على الوقت المعطى لتعبئة هذه الاستمارة



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عزيزتي/عزيزي تحية واحترام،

تقوم جمعية التنمية الزراعية (الغاثة الزراعية) بدراسة فجوة المهارات لدى المهندسين الزراعيين حديثي التخرج وسوق العمل. ومن اجل هذا الهدف تم تصميم الاستثمارة التي بين يديكم وهي إحدى الأدوات المستعملة في البحث. البيانات التي سيتم جمعها هي من اجل البحث فقط وسيتم الالتزام بها بسرية تامة، حيث سيتم من خلالها التعرف على أبرز المهارات والكفايات المطلوبة لدى المهندسين الزراعيين حديثي التخرج والتي تتناغم مع احتياجات سوق العمل الفلسطيني. وبناء عليه يرجى التكرم بتعبئتها من واقع خبرتكم وتقديركم لتحديد نوع ومستوى هذه المهارات.

شكرا لتعاونكم ووقتكم

فريق البحث



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استبيان رقم (2):

(Fresh graduate Agronomist)

مهارات المهندس الزراعي المطلوبة لسوق العمل خاص بالمهندس الزراعي الخريج

الاسم: رقم الجوال:
تاريخ المقابلة: / /

#	الجزء الأول: معلومات عامة
٢	معلومات عن المهندس الزراعي: العنوان: المحافظة: المدينة: القرية: الجنس: ذكر () انثى () عدد افراد الاسرة: التخصص: انتاج نباتي () انتاج حيواني () تصنيع غذائي () تربة ومياه () بيطرية () اسم الجامعة التي تخرجت منها: اسم الكلية: العضوية: هل انت عضو في نقابة المهندسين الزراعيين () عضو في جمعية () أخرى (وضح): ()
٣	واقف التحديات والمشاكل المتعلقة بالمهارات والكفايات التي تواجهها كمهندس زراعي خريج ما هي أكثر التحديات المتعلقة بالمهارات التي تواجهها كمهندس زراعي خريج: <input type="checkbox"/> إدارية وريادية: <input type="checkbox"/> فنية مهنية: <input type="checkbox"/> شخصية حياتية: ما هي المهارات التي تمتلكها من وجهة نظرك: -٤ -٥ -٦ ما هي المهارات والكفايات التي تعيق توظيفك؟ .١٢



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٣. هل تعتقد ان افتقار المهندس الزراعي للمهارات اللازمة يزيد من نسبة البطالة لدى أوساط المهندسين؟ نعم () لا ()	
٤. اهم المجالات الزراعية المطلوبة في سوق العمل الفلسطيني حسب الاولوية: اعداد التربة للزراعة اختيار الأصناف والاشتال تطعيم الخضار والفاكهة بما فيها الاستوائية الزراعة المائية الري والاسمدة مكافحة الآفات الزراعية القطف ومعاملات ما بعد الحصاد: عمليات التعبئة والتغليف التصنيع الغذائي تسويق المنتجات المحاصيل التصديرية: الارشاد الزراعي التكنولوجيا الزراعية الحديثة الزراعات التصديرية الزراعة المحمية أخرى:	
الجزء الثاني: المهارات والكفايات	
١. ما هي المهارات الشخصية والاجتماعية التي يحتاجها المهندس الزراعي الخريج لسوق العمل حسب الاولوية؟ <input type="checkbox"/> الصدق والأمانة <input type="checkbox"/> الثقة بالنفس <input type="checkbox"/> تحمل المسؤولية وحس الواجب <input type="checkbox"/> التعامل بشكل بناء مع الصراعات <input type="checkbox"/> الاتجاهات الإيجابية نحو التعلم مدى الحياة <input type="checkbox"/> الاتجاهات الإيجابية نحو المهام و العمل و الحياة <input type="checkbox"/> العمل ضمن فريق <input type="checkbox"/> إظهار المسؤولية الاجتماعية <input type="checkbox"/> القدرة على التواصل مع الآخرين	



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	<input type="checkbox"/> إظهار المسؤولية الاجتماعية	
٢	<p>ما هي المهارات الاحترافية التي يحتاجها المهندس الزراعي الخريج لسوق العمل حسب الاولوية؟</p> <p><input type="checkbox"/> البحث بشكل فاعل عن المعلومات وتحليلها</p> <p><input type="checkbox"/> إنجاز المهمة وفقا للمعايير الفنية</p> <p><input type="checkbox"/> القدرة على تقبل واستخدام التكنولوجيا الحديثة</p> <p><input type="checkbox"/> مهارات استخدام الحاسوب والانترنت</p> <p><input type="checkbox"/> مراقبة وضمان الجودة</p> <p><input type="checkbox"/> تخطيط وتنفيذ المشاريع</p> <p><input type="checkbox"/> فهم واستخدام المصطلحات الفنية بالإنجليزية</p> <p><input type="checkbox"/> تقييم النتائج وتوثيقها وعرضها</p> <p><input type="checkbox"/> استكشاف الأخطاء وإصلاحها</p> <p><input type="checkbox"/> إتباع معايير الجودة والصحة والسلامة المهنية وحماية البيئة.</p>	
٣	<p>ما هي المهارات الإدارية والريادية التي يحتاجها المهندس الزراعي الخريج لسوق العمل حسب الاولوية؟</p> <p><input type="checkbox"/> امتلاك رؤية واضحة للمستقبل</p> <p><input type="checkbox"/> التخطيط واتخاذ القرار</p> <p><input type="checkbox"/> الابتكار والأبداع</p> <p><input type="checkbox"/> القدرة على التأثير والتحفيز للوصول إلى الأهداف</p> <p><input type="checkbox"/> اكتشاف الأخطاء وتقبل النقد البناء</p> <p><input type="checkbox"/> تطوير الأفراد وتحفيزهم</p> <p><input type="checkbox"/> تجنب الاندفاع و التهور</p> <p><input type="checkbox"/> القدرة على المتابعة</p> <p><input type="checkbox"/> الإلمام بالعلاقات الإنسانية وعلاقات العمل</p> <p><input type="checkbox"/> الإلمام بالقوانين المنظمة للعمل</p>	
٤	<p>تدريبات تلقيتها في مجال تطوير المهارات:</p> <p>٦.</p> <p>٧.</p> <p>٨.</p> <p>٩.</p> <p>١٠.</p>	



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٥	اية اقتراحات وتوصيات أخرى:
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نشكركم على الوقت المعطى لتعبئة هذه الاستمارة



عزيزتي/ عزيزي تحية واحترام،

تقوم جمعية التنمية الزراعية (الاجاثة الزراعية) بدراسة فجوة المهارات لدى المهندسين الزراعيين حديثي التخرج وسوق العمل. ومن اجل هذا الهدف تم تصميم الاستمارة التي بين يديكم وهي إحدى الأدوات المستعملة في البحث. البيانات التي سيتم جمعها هي من اجل البحث فقط وسيتم الالتزام بها بسرية تامة، حيث سيتم من خلالها التعرف على أبرز المهارات والكفايات المطلوبة لدى المهندسين الزراعيين حديثي التخرج والتي تتناغم مع احتياجات سوق العمل الفلسطيني. وبناء عليه يرجى التكرم بتعبئتها من واقع خبرتكم وتقديركم لتحديد نوع ومستوى هذه المهارات.

شكرا لتعاونكم ووقتكم

فريق البحث



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استبيان مقابلة رقم (1):

مهارات المهندسين الزراعيين المطلوبة لسوق العمل خاص بالمؤسسات الحكومية (Governmental Bodies)

الاسم:
المسمى الوظيفي:
رقم الجوال:
تاريخ المقابلة: / /

#	الجزء الأول: معلومات عامة
١	معلومات عن المؤسسة: اسم المؤسسة: الهاتف: المحافظة: المدينة: / القرية: الأنشطة الاقتصادية ومجالات العمل: ٤. ٥. ٦.
٢	واقع توظيف المهندسين الزراعيين في المؤسسة: عدد المهندسين الزراعيين العاملين حالياً: () ذكور () اناث () توقعاتك لعدد المهندسين الزراعيين المطلوب في ٣ سنوات القادمة: () مجالات التوظيف المتوقعة: انتاج نباتي () انتاج حيواني () تصنيع غذائي () تربة ومياه () بيطرة ()
٣	واقع التحديات والمشاكل في مهارات المهندسين الزراعيين التي تواجهها المؤسسة: ما هي أكثر التحديات التي تواجهونها مع المهندسين الزراعيين الجدد في مجال المهارات: <input type="checkbox"/> إدارية وريادية: <input type="checkbox"/> فنية مهنية: <input type="checkbox"/> شخصية حياتية:
٤	حاجة سوق العمل للمهارات نتيجة التطور المستقبلي: ما هي اهم المهارات من وجهة نظرك يحتاجها سوق العمل نتيجة التطور المستقبلي في مجال التوظيف للمهندسين الزراعيين ١١. ١٢. ١٣. ١٤. ١٥.



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..... ١٦ ١٧ ١٨ ١٩ ٢٠	
اهم المجالات الزراعية المطلوبة في سوق العمل الفلسطيني: اعداد التربة للزراعة اختيار الأصناف والاشتال تطعيم الخضار والفاكهة بما فيها الاستوائية الزراعة المائية الري والاسمدة مكافحة الآفات الزراعية القطف ومعاملات ما بعد الحصاد: عمليات التعبئة والتغليف التصنيع الغذائي تسويق المنتجات المحاصيل التصديرية: الارشاد الزراعي التكنولوجيا الزراعية الحديثة الزراعات التصديرية الزراعة المحمية أخرى:	٥
الجزء الثاني: المهارات والكفايات	
١. مؤهلات المهندس الزراعي المهاراتية مناسبة لسوق العمل. <input type="radio"/> نعم <input type="radio"/> لا ٢. اشراكنا في تحليل المهن والمهارات المطلوبة لسوق العمل من قبل المؤسسات الاكاديمية. <input type="radio"/> نعم <input type="radio"/> لا ٣. اشراكنا في تحديد الاحتياجات التدريبية المطلوبة لسوق العمل من قبل المؤسسات الاكاديمية. <input type="radio"/> نعم <input type="radio"/> لا ٤. اشراكنا في تحديد وتصميم المناهج التعليمية والتدريبية المناسبة لسوق العمل من قبل المؤسسات الاكاديمية. <input type="radio"/> نعم <input type="radio"/> لا ٥. اشراكنا في المؤتمرات وورش العمل لتحليل المهارات المطلوبة من قبل المؤسسات الاكاديمية. <input type="radio"/> نعم <input type="radio"/> لا	١
ما هي المهارات الشخصية والاجتماعية التي تحتاجها إدارتكم في المهندس الزراعي الخريج؟ <input type="checkbox"/> الصدق والأمانة	٢



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	<p><input type="checkbox"/> الثقة بالنفس</p> <p><input type="checkbox"/> تحمل المسؤولية وحس الواجب</p> <p><input type="checkbox"/> التعامل بشكل بناء مع الصراعات</p> <p><input type="checkbox"/> الاتجاهات الإيجابية نحو التعلم مدى الحياة</p> <p><input type="checkbox"/> الاتجاهات الإيجابية نحو المهام والعمل والحياة</p> <p><input type="checkbox"/> العمل ضمن فريق</p> <p><input type="checkbox"/> إظهار المسؤولية الاجتماعية</p> <p><input type="checkbox"/> القدرة على التواصل مع الآخرين</p> <p><input type="checkbox"/> إظهار المسؤولية الاجتماعية</p>	
٢	<p>ما هي المهارات الاحترافية التي تحتاجها إدارتكم في المهندس الزراعي الخريج؟</p> <p><input type="checkbox"/> البحث بشكل فاعل عن المعلومات وتحليلها</p> <p><input type="checkbox"/> إنجاز المهمة وفقا للمعايير الفنية</p> <p><input type="checkbox"/> القدرة على تقبل واستخدام التكنولوجيا الحديثة</p> <p><input type="checkbox"/> مهارات استخدام الحاسوب والانترنت</p> <p><input type="checkbox"/> مراقبة وضمان الجودة</p> <p><input type="checkbox"/> تخطيط وتنفيذ المشاريع</p> <p><input type="checkbox"/> فهم واستخدام المصطلحات الفنية بالإنجليزية</p> <p><input type="checkbox"/> تقييم النتائج وتوثيقها وعرضها</p> <p><input type="checkbox"/> استكشاف الأخطاء وإصلاحها</p> <p><input type="checkbox"/> إتباع معايير الجودة والصحة والسلامة المهنية وحماية البيئة.</p>	
٣	<p>ما هي المهارات الإدارية والريادية التي تحتاجها إدارتكم في المهندس الزراعي الخريج؟</p> <p><input type="checkbox"/> امتلاك رؤية واضحة للمستقبل</p> <p><input type="checkbox"/> التخطيط واتخاذ القرار</p> <p><input type="checkbox"/> الابتكار والأبداع</p> <p><input type="checkbox"/> القدرة على التأثير والتحفيز للوصول إلى الأهداف</p> <p><input type="checkbox"/> اكتشاف الأخطاء وتقبل النقد البناء</p> <p><input type="checkbox"/> تطوير الأفراد وتحفيزهم</p> <p><input type="checkbox"/> تجنب الاندفاع و التهور</p> <p><input type="checkbox"/> القدرة على المتابعة</p>	



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<input type="checkbox"/> الإلمام بالعلاقات الإنسانية وعلاقات العمل <input type="checkbox"/> الإلمام بالقوانين المنظمة للعمل	
مهارات أخرى مطلوبة من وجهة نظرك: ١١ ١٢ ١٣ ١٤ ١٥	٧
اية اقتراحات وتوصيات أخرى: ١١ ١٢ ١٣ ١٤ ١٥	٨

نشكركم على الوقت المعطى لتعبئة هذه الاستمارة



عزيزتي/ عزيزي تحية واحترام،

تقوم جمعية التنمية الزراعية (الغاثة الزراعية) بدراسة فجوة المهارات لدى المهندسين الزراعيين حديثي التخرج وسوق العمل. ومن اجل هذا الهدف تم تصميم الاستثمارة التي بين يديكم وهي إحدى الأدوات المستعملة في البحث. البيانات التي سيتم جمعها هي من اجل البحث فقط وسيتم الالتزام بها بسرية تامة، حيث سيتم من خلالها التعرف على أبرز المهارات والكفايات المطلوبة لدى المهندسين الزراعيين حديثي التخرج والتي تتناغم مع احتياجات السوق العمل الفلسطيني. وبناء عليه يرجى التكرم بتعبئتها من واقع خبرتكم وتقديركم لتحديد نوع ومستوى هذه المهارات.

شكرا لتعاونكم ووقتكم

فريق البحث



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استبيان مقابلة رقم (3):

مهارات المهندسين الزراعيين المطلوبة لسوق العمل خاص بالمؤسسات الأكاديمية (Academic Sector)

الاسم:
المسمى الوظيفي:

رقم الجوال:
تاريخ المقابلة: / /

#	الجزء الأول: معلومات عامة
١	معلومات عن الجامعة: اسم الجامعة/المركز: المحافظة: المدينة: سنة التأسيس: الهاتف: الايمل الرسمي: الموقع الإلكتروني: البرامج والتخصصات المتوفرة في كلية الزراعة/ درجة البكالوريوس: ٧. ٨. ٩. ١٠. ١١.
٢	معلومات البنية التحتية المتوفرة في كلية الزراعة لتطوير التدريب والتطبيق العملي ورفع المهارات: ١. عدد المختبرات: ٢. المراكز ومحطات البحوث: ٣. وحدات ومراكز فحص الاعلاف او الامراض وغيرها ٤. بيوت بلاستيكية: ٥. مساحة المزرعة او الأراضي الزراعية المتوفرة: ٦. أخرى:
٣	واقع الخريجين (المهندسين الزراعيين) في الجامعة: عدد الخريجين الإجمالي من سنة التأسيس: () انتاج نباتي () انتاج حيواني () تصنيع غذائي ()



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	<p>عدد المهندسين الزراعيين والخريجين و العاملين حاليا: () ذكور () اناث () توقعاتك لعدد المهندسين الزراعيين الخريجين في ٣ سنوات القادمة: () عدد الطلاب الحالي: () نسبة المهندسين العاطلين عن العمل من الخريجين:</p>	
	<p>واقع التحديات والمشاكل في تطوير البرامج الاكاديمية ومهارات المهندسين الزراعيين: ما هي أكثر التحديات التي تواجهونها مع المهندسين الزراعيين اثناء الدراسة وبعد التخرج في مجال المهارات: <input type="checkbox"/> تحديات مالية:</p> <p><input type="checkbox"/> تحديات تقنية ولوجستية:</p> <p><input type="checkbox"/> الموارد البشرية:</p> <p><input type="checkbox"/> البنية التحتية (مختبرات، مزارع، محطات تجارب وما شابه:</p> <p><input type="checkbox"/> تحديات تتعلق بالتكنولوجيا الحديثة:</p> <p><input type="checkbox"/> أخرى:</p>	٤
	<p>واقع البحث العلمي والأنشطة الأخرى في مجال تطوير ورفع المهارات/القدرات/التدريب/التدريب المهني: هل يوجد أبحاث علمية او نشرات تتعلق في تطوير المهارات الخريجين في الجامعة او الكلية؟ ١. عدد الأبحاث العلمية او أوراق العمل المنشورة في هذا المجال:</p> <p>٢. عدد الأبحاث المشتركة مع جامعات ومراكز بحثية أخرى:</p> <p>٣. عدد أيام التوظيف التي تنظمها الكلية للمهندسين الزراعيين الخريجين:</p> <p>٤. عدد المؤتمرات التي تنظمها او تشارك بها الكلية او الجامعة تتعلق بالخريجين:</p> <p>٥. عدد مخيمات الأفكار الإبداعية لتوظيف الخريجين:</p> <p>٦. أخرى:</p>	٥
	<p>حاجة سوق العمل للمهارات نتيجة التطور المستقبلي في سوق العمل: ما هي اهم المهارات من وجهة نظرك يحتاجها سوق العمل نتيجة التطور المستقبلي في مجال التوظيف للمهندسين الزراعيين ٢١.</p> <p>٢٢.</p> <p>٢٣.</p> <p>٢٤.</p> <p>٢٥.</p>	٦



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<p>٧ اهم المجالات الزراعية المطلوبة في سوق العمل الفلسطيني:</p> <ul style="list-style-type: none"><input type="radio"/> اعداد التربة للزراعة<input type="radio"/> اختيار الأصناف والاشغال<input type="radio"/> تطعيم الخضار والفاكهة بما فيها الاستوائية<input type="radio"/> الزراعة المائية<input type="radio"/> الري والاسمدة<input type="radio"/> مكافحة الآفات الزراعية<input type="radio"/> القطف ومعاملات ما بعد الحصاد:<input type="radio"/> عمليات التعبئة والتغليف<input type="radio"/> التصنيع الغذائي.....<input type="radio"/> تسويق المنتجات.....<input type="radio"/> المحاصيل التصديرية:.....<input type="radio"/> الارشاد الزراعي<input type="radio"/> التكنولوجيا الزراعية الحديثة.....<input type="radio"/> الزراعات التصديرية.....<input type="radio"/> الزراعة المحمية.....<input type="radio"/> أخرى:	٧
الجزء الثاني: المهارات والكفايات	
<p>١ تطوير المهارات والبرامج والمناهج التعليمية والتدريبية لدى المهندسين الزراعيين في الجامعات والمراكز التدريبية:</p> <ul style="list-style-type: none"><input type="checkbox"/> مؤهلات المهندس الزراعي المهاراتية مناسبة لسوق العمل. <input type="radio"/> نعم <input type="radio"/> لا<input type="checkbox"/> يتلقى المهندس الزراعي التدريب الكافي في تطوير المهارات الحياتية والفنية والإدارية اثناء الدراسة. <input type="radio"/> نعم <input type="radio"/> لا<input type="checkbox"/> يوجد برامج مشتركة مع القطاع الخاص لتدريب المهندسين الزراعيين اثناء وبعد التخرج <input type="radio"/> نعم <input type="radio"/> لا<input type="checkbox"/> يتم اشراك المؤسسات الرسمية وغير الرسمية والقطاع الخاص في تحليل المهن والمهارات المطلوبة لسوق العمل <input type="radio"/> نعم <input type="radio"/> لا<input type="checkbox"/> يتم اشراك المؤسسات الرسمية وغير الرسمية والقطاع الخاص في تحديد الاحتياجات التدريبية المطلوبة لسوق العمل <input type="radio"/> نعم <input type="radio"/> لا<input type="checkbox"/> يتم اشراك المؤسسات الرسمية وغير الرسمية والقطاع الخاص في تصميم المناهج التعليمية والتدريبية المناسبة لسوق العمل <input type="radio"/> نعم <input type="radio"/> لا<input type="checkbox"/> يتم اشراك المؤسسات الرسمية والقطاع الخاص في المؤتمرات وورش العمل لتحليل المهارات المطلوبة <input type="radio"/> نعم <input type="radio"/> لا<input type="checkbox"/> يتم اشراك المؤسسات الرسمية والقطاع الخاص في وضع الخطط والبرامج الاكاديمية <input type="radio"/> نعم <input type="radio"/> لا<input type="checkbox"/> يتم التواصل مع المؤسسات ذات العلاقة لتطوير مهارات المهندس الزراعي <input type="radio"/> نعم <input type="radio"/> لا	١



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<p>لا 0 نعم 0</p> <p>.....</p>	<p><input type="checkbox"/> تلعب الجامعة دورا مهما في جهود توظيف المهندسين الزراعيين من خلال تنظيم أيام التوظيف</p> <p><input type="checkbox"/> أخرى:</p>
	<p>٢ ما هي المهارات الشخصية والاجتماعية التي تحتاجها كليتكم في المهندس الزراعي الخريج؟</p> <p><input type="checkbox"/> الصدق والأمانة</p> <p><input type="checkbox"/> الثقة بالنفس</p> <p><input type="checkbox"/> تحمل المسؤولية وحس الواجب</p> <p><input type="checkbox"/> التعامل بشكل بناء مع الصراعات</p> <p><input type="checkbox"/> الاتجاهات الإيجابية نحو التعلم مدى الحياة</p> <p><input type="checkbox"/> الاتجاهات الإيجابية نحو المهام و العمل و الحياة</p> <p><input type="checkbox"/> العمل ضمن فريق</p> <p><input type="checkbox"/> إظهار المسؤولية الاجتماعية</p> <p><input type="checkbox"/> القدرة على التواصل مع الآخرين</p> <p><input type="checkbox"/> إظهار المسؤولية الاجتماعية أخرى:</p>
	<p>٢ ما هي المهارات الاحترافية التي تحتاجها كليتكم في المهندس الزراعي الخريج؟</p> <p><input type="checkbox"/> البحث بشكل فاعل عن المعلومات وتحليلها</p> <p><input type="checkbox"/> إنجاز المهمة وفقا للمعايير الفنية</p> <p><input type="checkbox"/> القدرة على تقبل واستخدام التكنولوجيا الحديثة</p> <p><input type="checkbox"/> مهارات استخدام الحاسوب والانترنت</p> <p><input type="checkbox"/> مراقبة وضمان الجودة</p> <p><input type="checkbox"/> تخطيط وتنفيذ المشاريع</p> <p><input type="checkbox"/> فهم واستخدام المصطلحات الفنية بالإنجليزية</p> <p><input type="checkbox"/> تقييم النتائج وتوثيقها وعرضها</p> <p><input type="checkbox"/> استكشاف الأخطاء وإصلاحها</p> <p><input type="checkbox"/> إتباع معايير الجودة والصحة والسلامة المهنية وحماية البيئة.</p> <p>.....</p>



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<p>٣ ما هي المهارات الإدارية والريادية التي تحتاجها كليتيكم في المهندس الزراعي الخريج؟</p> <p><input type="checkbox"/> امتلاك رؤية واضحة للمستقبل</p> <p><input type="checkbox"/> التخطيط واتخاذ القرار</p> <p><input type="checkbox"/> الابتكار والأبداع</p> <p><input type="checkbox"/> القدرة على التأثير والتحفيز للوصول إلى الأهداف</p> <p><input type="checkbox"/> اكتشاف الأخطاء وتقبل النقد البناء</p> <p><input type="checkbox"/> تطوير الأفراد وتحفيزهم</p> <p><input type="checkbox"/> تجنب الاندفاع و التهور</p> <p><input type="checkbox"/> القدرة على المتابعة</p> <p><input type="checkbox"/> الإلمام بالعلاقات الإنسانية وعلاقات العمل</p> <p><input type="checkbox"/> الإلمام بالقوانين المنظمة للعمل</p> <p>أخرى:</p> <p>.....</p>	٣
<p>٧ مهارات أخرى مطلوبة من وجهة نظرك لم تذكر:</p> <p>..... ١٦</p> <p>..... ١٧</p> <p>..... ١٨</p> <p>..... ١٩</p> <p>..... ٢٠</p>	٧
<p>اية اقتراحات وتوصيات أخرى:</p> <p>..... ١٦</p> <p>..... ١٧</p> <p>..... ١٨</p> <p>..... ١٩</p> <p>..... ٢٠</p>	

نشكركم على الوقت المعطى لتعبئة هذه الاستمارة



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عزيزتي/عزيزي تحية واحترام،

تقوم جمعية التنمية الزراعية (الغاثة الزراعية) بدراسة فجوة المهارات لدى المهندسين الزراعيين حديثي التخرج وسوق العمل. ومن اجل هذا الهدف تم تصميم الاستثمارة التي بين يديكم وهي إحدى الأدوات المستعملة في البحث. البيانات التي سيتم جمعها هي من اجل البحث فقط وسيتم الالتزام بها بسرية تامة، حيث سيتم من خلالها التعرف على أبرز المهارات والكفايات المطلوبة لدى المهندسين الزراعيين حديثي التخرج والتي تتناغم مع احتياجات سوق العمل الفلسطيني. وبناء عليه يرجى التكرم بتعبئتها من واقع خبرتكم وتقديركم لتحديد نوع ومستوى هذه المهارات.

شكرا لتعاونكم ووقتكم

فريق البحث



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استبيان مقابلة رقم (١):

مهارات المهندسين الزراعيين المطلوبة لسوق العمل خاص بالمؤسسات الحكومية (Governmental Bodies)

الاسم:
المسمى الوظيفي:
رقم الجوال:
تاريخ المقابلة: / /

#	الجزء الأول: معلومات عامة
١	معلومات عن المؤسسة: اسم المؤسسة: الهاتف: المحافظة: المدينة: / القرية: الأنشطة الاقتصادية ومجالات العمل: ١٢ ١٣ ١٤
٢	واقع توظيف المهندسين الزراعيين في المؤسسة: عدد المهندسين الزراعيين العاملين حالياً: () ذكور () اناث () توقعاتك لعدد المهندسين الزراعيين المطلوب في ٣ سنوات القادمة: () مجالات التوظيف المتوقعة: انتاج نباتي () انتاج حيواني () تصنيع غذائي () تربية ومياه () بيطرية ()
٣	واقع التحديات والمشاكل في مهارات المهندسين الزراعيين التي تواجهها المؤسسة: ما هي أكثر التحديات التي تواجهونها مع المهندسين الزراعيين الجدد في مجال المهارات: <input type="checkbox"/> إدارية وريادية: <input type="checkbox"/> فنية مهنية: <input type="checkbox"/> شخصية حياتية:
٤	حاجة سوق العمل للمهارات نتيجة التطور المستقبلي: ما هي اهم المهارات من وجهة نظرك يحتاجها سوق العمل نتيجة التطور المستقبلي في مجال التوظيف للمهندسين الزراعيين ٢٦ ٢٧ ٢٨ ٢٩ ٣٠ ٣١ ٣٢



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..... ٣٣	
..... ٣٤	
..... ٣٥	
اهم المجالات الزراعية المطلوبة في سوق العمل الفلسطيني:	٥
اعداد التربة للزراعة	
اختيار الأصناف والاشتال	
تطعيم الخضار والفاكهة بما فيها الاستوائية	
الزراعة المائية	
الري والاسمدة	
مكافحة الآفات الزراعية	
القطف ومعاملات ما بعد الحصاد:	
عمليات التعبئة والتغليف	
التصنيع الغذائي	
تسويق المنتجات	
المحاصيل التصديرية:	
الارشاد الزراعي	
التكنولوجيا الزراعية الحديثة	
الزراعات التصديرية	
الزراعة المحمية	
أخرى:	
الجزء الثاني: المهارات والكفايات	
تحديد المهارات والبرامج والمناهج التعليمية والتدريبية لدى المهندسين الزراعيين في الجامعات والمراكز التدريبية؟	١
٦. مؤهلات المهندس الزراعي المهاراتية مناسبة لسوق العمل. <input type="radio"/> نعم <input type="radio"/> لا	
٧. اشراكنا في تحليل المهن والمهارات المطلوبة لسوق العمل من قبل المؤسسات الاكاديمية. <input type="radio"/> نعم <input type="radio"/> لا	
٨. اشراكنا في تحديد الاحتياجات التدريبية المطلوبة لسوق العمل من قبل المؤسسات الاكاديمية. <input type="radio"/> نعم <input type="radio"/> لا	
٩. اشراكنا في تحديد وتصميم المناهج التعليمية والتدريبية المناسبة لسوق العمل من قبل المؤسسات الاكاديمية. <input type="radio"/> نعم <input type="radio"/> لا	
١٠. اشراكنا في المؤتمرات وورش العمل لتحليل المهارات المطلوبة من قبل المؤسسات الاكاديمية. <input type="radio"/> نعم <input type="radio"/> لا	
ما هي المهارات الشخصية والاجتماعية التي تحتاجها إدارتكم في المهندس الزراعي الخريج؟	٢
<input type="checkbox"/> الصدق والأمانة	
<input type="checkbox"/> الثقة بالنفس	



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	<ul style="list-style-type: none"><input type="checkbox"/> تحمل المسؤولية وحس الواجب<input type="checkbox"/> التعامل بشكل بناء مع الصراعات<input type="checkbox"/> الاتجاهات الإيجابية نحو التعلم مدى الحياة<input type="checkbox"/> الاتجاهات الإيجابية نحو المهام و العمل و الحياة<input type="checkbox"/> العمل ضمن فريق<input type="checkbox"/> إظهار المسؤولية الاجتماعية<input type="checkbox"/> القدرة على التواصل مع الآخرين<input type="checkbox"/> إظهار المسؤولية الاجتماعية	
٢	<p>ما هي المهارات الاحترافية التي تحتاجها إدارتكم في المهندس الزراعي الخريج؟</p> <ul style="list-style-type: none"><input type="checkbox"/> البحث بشكل فاعل عن المعلومات وتحليلها<input type="checkbox"/> إنجاز المهمة وفقا للمعايير الفنية<input type="checkbox"/> القدرة على تقبل واستخدام التكنولوجيا الحديثة<input type="checkbox"/> مهارات استخدام الحاسوب والأنترنترنت<input type="checkbox"/> مراقبة وضمان الجودة<input type="checkbox"/> تخطيط وتنفيذ المشاريع<input type="checkbox"/> فهم واستخدام المصطلحات الفنية بالإنجليزية<input type="checkbox"/> تقييم النتائج وتوثيقها وعرضها<input type="checkbox"/> استكشاف الأخطاء وإصلاحها<input type="checkbox"/> إتباع معايير الجودة والصحة والسلامة المهنية وحماية البيئة.	
٣	<p>ما هي المهارات الإدارية والريادية التي تحتاجها إدارتكم في المهندس الزراعي الخريج؟</p> <ul style="list-style-type: none"><input type="checkbox"/> امتلاك رؤية واضحة للمستقبل<input type="checkbox"/> التخطيط واتخاذ القرار<input type="checkbox"/> الابتكار والأبداع<input type="checkbox"/> القدرة على التأثير والتحفيز للوصول إلى الأهداف<input type="checkbox"/> اكتشاف الأخطاء وتقبل النقد البناء<input type="checkbox"/> تطوير الأفراد وتحفيزهم<input type="checkbox"/> تجنب الاندفاع و التهور<input type="checkbox"/> القدرة على المتابعة<input type="checkbox"/> الإلمام بالعلاقات الإنسانية وعلاقات العمل	



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<input type="checkbox"/> الإلمام بالقوانين المنظمة للعمل	
مهارات أخرى مطلوبة من وجهة نظرك:	٧
..... ٢١	
..... ٢٢	
..... ٢٣	
..... ٢٤	
..... ٢٥	
اية اقتراحات وتوصيات أخرى:	٨
..... ٢١	
..... ٢٢	
..... ٢٣	
..... ٢٤	
..... ٢٥	

نشكركم على الوقت المعطى لتعبئة هذه الاستمارة



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Employers Questionnaire

استبيان المشغلين

This is a sensitive data and won't be shared with any other party. سيتم التعامل مع البيانات الخاصة بمعلومات المشغلين بسرية تامة

Date/التاريخ:

Location/الموقع:

Governorate/المحافظة:

(A) Employer Info/معلومات المشغل

1- Name/الاسم:	2- Age/العمر:	3- Sex/الجنس: ()M/ ()F/
4- Address/العنوان:	5- Mobile/الموبايل:	

6- Workplace/اسم المنشأة:	
7- Telephone #/رقم الهاتف/	
8- Address / العنوان	
9- Website and Email/الصفحة الإلكترونية و الايميل	
10- Year of Establishment / تاريخ التأسيس	
11- Sector / القطاع	(A) (B) (C) (D)
12- Economic activities and areas of work of the enterprise/الأنشطة الاقتصادية ومجالات العمل للمؤسسة	(A) (B) (C) (D)



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(B) Labor Info / معلومات حول العمل

1- Work fields of the company institution/ مجالات العمل في الشركة أو المؤسسة	(A) Farming / زراعة (B) Management / إدارة (C) Packaging / تغليف (D) Marketing and sales / تسويق وتوزيع (E) Food processing / تصنيع غذائي (F) Supervision / إشراف (G) Purchases / مشتريات (H) Project coordinator / منسق مشاريع (I) Training and Capacity building / تدريب وبناء قدرات (J) Export/Import / تصدير/ واستيراد (K) Advocacy and Solidarity / ضغط ومناصرة (L) Animal breeding / تربية حيوانية (M) Agri Technology - Agribusiness / تكنولوجيا زراعية (N) Inventory, refrigeration, and Storage / تبريد وتخزين ومستودعات (O) English Language reporting skills / كتابة التقارير باللغة الانجليزية (P) Computer and internet skills / الحاسوب و الانترنت (Q) Other / أخرى
2- Number of employed agronomists عدد المهندسين الزراعيين العاملين	



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3- Number of Females agronomists عدد المهندسات الزراعيات النساء	
4- Existing work insurance عمل : هل يوجد تأمين عمل	(A) Yes/نعم/ (B) NO/لا/
5- Type of insurance: نوع التأمين	(A) Health /تأمين صحي/ (B) Work injuries /تأمين إصابات/
6- Do you have a work contract? هل هناك عقد عمل؟	(A) Yes/نعم/ (B) NO/لا/
7- Are you a member of the Agricultural Engineers Union or chambers of commerce or unions? هل أنت عضو في نقابة المهندسين الزراعيين او غرف تجارية او اتحادات	(A) Yes/نعم/ (B) NO/لا/

(C) Challenges and skills

The reality of challenges and problems related to the skills and competencies that you have faced or are still facing as an employer for agronomists:

واقع التحديات والمشاكل المتعلقة بالمهارات والكفايات التي واجهتها او لا زلت تواجهها كمشغل للمهندسين الزراعيين:

1- What are the most skill-related challenges you have faced or are still facing as an Employer: ما هي أكثر التحديات المتعلقة بالمهارات التي واجهتها او لا زلت تواجهها كمشغل:	(A) Administrative and entrepreneurial/ إدارية وريادية (B) Technical / فنية مهنية / (C) Personal or life skills/ شخصية وحياتية / (D) Other / أخرى: _____
2- What are the most important skills that led to your selection for hiring agronomists? ما هي أهم المهارات التي أدت إلى اختيارك لتوظيف المهندسين	A- B- C-



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الزراعيين؟	D- E- F-
3- Do you think that the agricultural engineer's lack of the necessary skills increases the unemployment rate among engineers? هل تعتقد أن افتقار المهندس الزراعي للمهارات اللازمة يزيد من نسبة البطالة لدى أوساط المهندسين؟	(A) Yes/نعم (B) NO/لا
4- What skill does the agronomist in your company/institution have? ما هي المهارات التي يمتلكها المهندسين الزراعيين العاملين لديكم؟	(A) Farming /زراعة (B) Management /إدارة (C) Packaging /تغليف (D) Marketing and sales /تسويق وتوزيع (E) Food processing /تصنيع غذائي (F) Supervision /إشراف (G) Purchases /مشتريات (H) Project coordinator /منسق مشاريع (I) Training and Capacity building /تدريب وبناء قدرات (J) Export/Import /تصدير/واستيراد (K) Advocacy and Solidarity /ضغط ومناصرة (L) Animal breeding /تربية حيوانية (M) Agri Technology - Agribusiness /تكنولوجيا زراعية (N) Inventory, refrigeration, and Storage /تبريد وتخزين ومستودعات (O) English Language reporting skills /كتابة التقارير باللغة الانجليزية (P) Computer and internet skills /الحاسوب و الانترنت (Q) Other /أخرى
5- Please Indicate the skills gap / الرجاء توضيح الفجوة في المهارات	A- B- C- D- E- F-
6- The most important agricultural fields required in the Palestinian labor market, according to priority: اهم المجالات الزراعية المطلوبة في سوق العمل الفلسطيني حسب الأولوية:	(A) Soil preparation for planting / إعداد التربة للزراعة (B) Selection of varieties and seedlings / اختيار الأصناف والاشتال (C) Vaccination of vegetables and fruits, including tropical / تطعيم الخضار والفاكهة بما فيها الاستوائية - (D) hydroponics / الزراعة المائية



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<p>Please write the numbers from 1 to 15; where 1 is highest and 15 is lowest الرجاء كتابة الرقم 1 الى الرقم 15 حيث ان الرقم 1 أعلى أولوية و الرقم 15 أقل أولوية</p>	<p>(E) Irrigation and fertilizer / الري والأسمدة (F) Agricultural pest control / مكافحة الآفات الزراعية (G) Picking and post-harvest handling / القطف ومعاملات ما بعد الحصاد (H) Packaging operations / عمليات التعبئة والتغليف (I) Food manufacturing / التصنيع الغذائي (J) Product Marketing / تسويق المنتجات (K) Export crops / المحاصيل التصديرية (L) Agricultural guidance / الإرشاد الزراعي (M) Modern agricultural technology / التكنولوجيا الزراعية الحديثة (N) Protected agriculture / الزراعة المحمية (O) Other / أخرى:</p>
<p>7- What are the most important skills from your point of view that the labor market needs as a result of the development in the field of employment for agricultural engineers? ما هي أهم المهارات من وجهة نظرك يحتاجها سوق العمل نتيجة التطور في مجال التوظيف للمهندسين الزراعيين</p>	<p>A- B- C- D- E- F- G-</p>

(D) Skills and competencies / المهارات والكفايات

<p>1- What are the personal and social skills that a graduate agricultural engineer needs for the labor market, according to priority? ما هي المهارات الشخصية والاجتماعية التي يحتاجها المهندس الزراعي الخريج لسوق العمل حسب الأولوية؟</p> <p>Please write the numbers from 1 to 8; where 1 is highest and 8 is lowest الرجاء كتابة الرقم 1 الى الرقم 8 حيث ان الرقم 1 أعلى أولوية و الرقم 8 أقل أولوية</p>	<p>(A) The Truthfulness and honesty/الصدق والأمانة (B) Self-assurance/الثقة بالنفس (C) Taking responsibility and a sense of duty/ تحمل المسؤولية وحس الواجب (D) Constructively dealing with conflicts/ التعامل بشكل بناء مع الصراعات (E) Positive Attitudes Towards Lifelong Learning/ الاتجاهات الإيجابية نحو التعلم مدى الحياة (F) Work within a team/ العمل ضمن فريق (G) Demonstrate social responsibility إظهار المسؤولية الاجتماعية</p>
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	(H) The ability to communicate with others القدرة على التواصل مع الآخرين
<p>2- What are the technical skills that a graduate agricultural engineer needs for the labor market, according to priority?</p> <p>ما هي المهارات الاحترافية التي يحتاجها المهندس الزراعي الخريج لسوق العمل حسب الاولوية؟</p> <p>Please write the numbers from 1 to 10; where 1 is highest and 10 is lowest</p> <p>الرجاء كتابة الرقم 1 الى الرقم 10 حيث ان الرقم 1 أعلى أولوية و الرقم 10 أقل أولوية</p>	<p>(A) Actively search and analyze information / البحث بشكل فاعل عن المعلومات وتحليلها</p> <p>(B) Complete the job in accordance with technical standards/ إنجاز المهمة وفقا للمعايير الفنية</p> <p>(C) The ability to accept and use modern technology/ القدرة على تقبل واستخدام التكنولوجيا الحديثة</p> <p>(D) Computer and internet skills/ مهارات استخدام الحاسوب والإنترنت</p> <p>(E) Quality control and assurance/ مراقبة وضمان الجودة</p> <p>(F) Planning and implementation of projects/ تخطيط وتنفيذ المشاريع</p> <p>(G) Understand and use technical terms in English/ فهم واستخدام المصطلحات الفنية بالإنجليزي</p> <p>(H) Evaluate, document and present the results / تقييم النتائج وتوثيقها وعرضها</p> <p>(I) Problem solving orientation/ استكشاف الأخطاء وإصلاحها</p> <p>(J) Follow the standards of quality, health, occupational safety and environmental protection/ إتباع معايير الجودة والصحة والسلامة المهنية وحماية البيئة</p>



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<p>3- What are the managerial and entrepreneurial skills that a graduate agricultural engineer needs for the labor market, according to priority?</p> <p>ما هي المهارات الإدارية والريادية التي يحتاجها المهندس الزراعي الخريج لسوق العمل حسب الأولوية؟</p> <p>Please write the numbers from 1 to 10; where 1 is highest and 10 is lowest</p> <p>الرجاء كتابة الرقم 1 الى الرقم 10 حيث ان الرقم 1 أعلى أولوية و الرقم 10 أقل أولوية</p>	<p>(A) Having a clear vision for the future/ امتلاك رؤية واضحة للمستقبل</p> <p>(B) Planning and decision making/ التخطيط واتخاذ القرار</p> <p>(C) Innovation and creativity/ الابتكار والأبداع</p> <p>(D) The ability to influence and motivate to reach goals/ القدرة على التأثير والتحفيز للوصول إلى الأهداف</p> <p>(E) Spotting mistakes and accepting constructive criticism/ اكتشاف الأخطاء وتقبل النقد البناء</p> <p>(F) Develop and motivate people/ تطوير الأفراد وتحفيزهم</p> <p>(G) Avoid rush and recklessness/ تجنب الاندفاع والتهور</p> <p>(H) Ability to Evaluate/ القدرة على التقييم</p> <p>(I) Familiarity with human and work relations/ الإلمام بالعلاقات الإنسانية وعلاقات العمل</p> <p>(J) Familiarity with the work laws and regulations/ الإلمام بالقوانين المنظمة للعمل</p>
<p>4- Skills development training you Provided for the employed agronomists during the job:</p> <p>تنمية و تدريب المهارات الذي قدمته للمهندسين الزراعيين العاملين أثناء العمل:</p>	<p>A-</p> <p>B-</p> <p>C-</p> <p>D-</p> <p>E-</p> <p>F-</p> <p>G-</p>
<p>5- Do you have a budget for agronomist training and development?</p>	<p>(A)Yes (B)No</p>



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هل هناك ميزانية لتطوير و تدريب المهندسين الزراعيين لديكم؟	
6- What are the major missing skills in your opinion? / ما هي أهم المهارات المفقودة في رأيكم	A- B- C- D- E- F- G-
7- Other suggestions and recommendations: اقتراحات وتوصيات أخرى:	A- B- C- D- E-

(E) Work Quality



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<p>1- What levels of occupational health and safety currently exist? ما هي مستويات الصحة والسلامة المهنية الموجودة حالياً؟</p>	<p>(A) Existence of measures to protect the worker from injuries caused by work hazards وجود اجراءات لحماية العامل من الإصابات الناجمة عن مخاطر العمل</p> <p>(B) Provides all occupational safety and health requirements that ensure a safe environment that prevents risks for workers توفر كافة اشتراطات السلامة والصحة المهنية التي تكفل توفير بيئة آمنة تحقق الوقاية من المخاطر للعاملين</p> <p>(C) Existence of first-aid kit وجود خزانة اسعاف أولي</p> <p>(D) Existence of firefighting tools أدوات مكافحة الحريق</p> <p>(E) Presence of a person trained in first aid and firefighting وجود شخص متدرب على الاسعاف الأولي والاطفاء</p> <p>(F) Does the supervisor periodically inspect the different work sites to ensure that everyone adheres to the instructions and safety conditions? هل يقوم المشرف بالتفتيش الدوري على مواقع العمل المختلفة للتأكد من التزام الجميع بالتعليمات وشروط السلامة؟</p>
<p>2- Is there an incentive system in the workplace? هل يوجد نظام حوافز في مكان العمل؟</p>	<p>(A) Yes/نعم/ (B) NO/لا/</p>

من خلال خبراتك، ما هي أهم المهارات التي يجب على الجامعات والوزارات المعنية التركيز عليها أو إدماجها في المناهج التدريبية/التعليمية؟

Field worker name اسم الموظف الميداني

Signature التوقيع