

Executive Summary

The Gap Between Supply and Demand In The Electromechanical Assemblies Sector

2014

The number of establishments in the elector mechanical assemblies sector are (454) enterprises they employ about (3,909) employees of both sexes, distributed in the order of (84%) in the Central region of the Kingdom, (13%) in the northern region and (3%) in the southern region. The majority of operating establishments in the sector are single owner (sole proprietor-ship) in the order of (91%) according to their legal status partnerships establishments accounted for (6%) and finally enterprises with limited liabilities accounting for the remaining (1%).

The establishments in the elector mechanical assemblies sector have been classified into three major groups which are: small size (1-5 employees) accounting for (89%), next are medium size (5-10 employees) accounting for (4%) and large size(11 employees and more) accounting for (5%). In addition, (52%) of working establishments in this sector have shown a decline in demand for their production in the year 2013. Also, they expected a decline in demand for their products during the (2014-2016).

Employees in this sector are distributed in the order of (98%) males compared with only (2%) females. It is found that the majority of males employees have intermediate diploma as their educational qualification accounting for (45%), around (22%) have qualification of less than secondary education while we find (51%) of female employees in the sector have an educational qualification of Intermediate diploma and around (35%) have a bachelor degree. From another point, we find that (98%) of employees in this sector are Jordanian citizens compared with (2%) are non-Jordanians. It is considered that this percentage is very near the central/ and northern regions, however, the percentage of non-Jordanians is higher in the southern region reaching (14%).

The study disclose that career of general electrical technician (22%), production mechanical and metal works (9%), electrical engineer (4%) and electrical wiring installations in homes and industries (3%). These careers are the most employable and recruited in the electro mechanical assemblies sector. This situation applies in the central region, while in the northern region, it is found that the following occupations to be the most employable and recruited careers are: workers in pipe installation and metal workers (9%), electrical wiring installation in residential and industries, Mechanic/ maintenance of water and sewer networks. These occupations are the more popular among workers in the sector. Never the less, in the southern region the occupation most employable are pipe installation and metal works, mechanic/ maintenance of water and sewer networks.

The electro mechanical assemblies sector concentrate for the major part on employing male workers in general, with females present in a group of occupations but with a small percentage. In addition, demand for workforce is concentrated more in the central region. In general the size of demand for occupations of this sector for the years (2014-2016) is around (103) employees. Demand size for males amounted to (58) for the year (2014) compared with (6) for females. But it is expected that the size of demand will decline to reach (19) in the year 2015, and will also register another decline to (20) in the year 2016.

In general, there is a demand for the years (2014-2016) on the following occupations: pipe installation and metal work, assistant electrician/ elevator/ maintenance, mechanical engineer. assistant mechanic/ plumbing work, electrician / protection and control devices. While demand for females concentrates on the following occupation: civil and electrical engineering, and administrative and secretarial occupation. In addition, it ought to be pointed out the need for new workers will arise as a result of expanding business, This matter calls for being optimistic since the increase in demand size for employees in the years 2014-2016 is a result of expansion operation with a percentage ranging between (40%-57%) more so than just being a result of job rotation.

The study shows that the most demanded skill within the careers in the sector are: install cold and hot water systems networks and sewer systems network, installation of porcelain pieces and part (plumbing work), preparation of path for piping system network for cold and hot water, sewer network, the path for solar system piping. Installation of water lines and network lines, installation and installation of porcelain pieces and parts (plumbing work), reading executive plans for housing electrical wiring network, handling material, required machinery and equipment and tools necessary for central Air conditioning systems and finally cutting to required measurements and the threading steel, copper and plastic pipes.

The results of collected data analysis indicate that the majority of working establishment in this sector do not wish to hire females. The major reason for this is that the nature of work in this sector is not suitable for women. But, and in general there remains employment for women in career within this sector with a percentage of (2%) in the following careers: industrial engineering, civil engineering, electrical and electronics engineering, and administrative careers (accounting, secretaria, business administration).

The future demand for females is exclusive in the central region, while demand for females does not exist in the other region of the Kingdom in the electro mechanical assemble sector. From another point, the number of employees who are disabilities people is (7) workers, working exclusively in the central trigon and the make only (0.2%). These disabilities people work in three occupations in the same sector. But, the more careers were they are concentrated in are pipe installation and metal works, and drivers of private vehicles, taxis and other vehicles and carts.

The study results disclose that what amount to (84%) of establishment do not face any difficulties in recruitment, however (16%) of establishments (most of whom are single owner (sole proprietorship) face difficulties in recruitment, These difficulties are attributable to the shortage in workforce of those who possess demanded skills in a major way. In addition to the shortage of laborers who have values and positive attitudes toward work. As to the methods used for recruitment through personal contacts is the mostly used with (84%). The next method for recruitment is through newspaper's advertisement and electronic websites with a (9%), and finally recruitment through employment agencies with (5%).

The number of training programs specialized for this sector are around (35) training programs. The number of graduates from these programs are close to (21,301) graduates during the years (2011-2013). The greater majority of them graduated from the following programs: electrical wiring program/ residential and industrial (25.2%), pipe installation and metal works program (17.3%), next is mechanic installation of heating and cooling equipment's program (7.8%), and maintenance of water and sewer networks program (6%). From another point, it is worth noting that the real supply size is (18,875) during the same period (2011-2013).

From another point, the number of male graduates from training programs specially tailored for this sector reached (21,310) graduated during the years (2011-2013). The majority of them graduated from the following programs: electrical wiring installation program/ residential and industrial (26.3%), pipe installation and maintenance of heating and cooling equipment (8.2%), and finally maintenance of water and sewer networks program (6.4%). On the other side, the number of female graduates from training programs in the electro mechanical assemblies sector were close to (969) graduates during the years (2011-2013). A large percentage of the female graduates completed the following programs architectural engineering program (62.4%), time and motion engineering program (15%), then communication technician program/ general (6%), and electrical technician/ general (5.6%).

The number of graduates from institutions providing training in the electro mechanical assemblies sector are distributed regionally as follows: (71.2%) in the central region, (19.2%) in the northern region and finally (9.6%) in the southern region. From another point, the number of graduates from institutions providing training in this sector are distributed according to gender with (95.7%) males (70%) in the central region, (20%) in the northern region and (10%) in the southern region. In addition females accounted for (4.3%) with (96.0%) in central region, (3.8%) in the northern region, and (0.2%) in the southern region, Furthermore, the results disclose that the institutions providing training programs do not provide any program which serves the disabled people. When institutions providing training programs were asked about future training programs from this group in society, no provider indicated any interest to offer any training programs.

Courses for increasing efficiency provided by institutions providing training are considered limited and squeezed into two program which are: installation and assembly

of electrical appliance, distribution panels and surveillance and warning panels according to specification plan with (12) trainees, next is installing electrical generator and operation and control switches and distribution and control panel for the elevator in the order of (12) trainees for the years (2012-2013). These courses were exclusively concentrated in the central region.

These courses were directed to male employees in the Jordanian lift (elevator) institution. It is worth noting that the center for training engineers will offer a program on study and analysis and solving problems related to production and future manufacturing to train (50) trainees, while vocational education / Ministry of Education will offer a program in connecting the elevator cabinet and weights with the generator (motor) with reels and steel ropes with absorbing capacity of (28) trainees.

From the above, we conclude the existence of a very large numerical gap estimated to be (18,772) as excess supply. This means that the market is able to absorb only (1%) from supply size, while it is expected that the remaining portion which is (99%) will be unemployed. This is indicative of not planning properly for supply by the institutions providing training and in different demanded program areas.

With regard to the technical skills which business owners insist on the necessity of being possessed by employees in work location and in employees who will be recruited, most of which are not included in training programs offered. Therefore, and in light of results of this study, it ought to be recommended for the necessity of providing training programs which offer these demanded technical skills, which can be summarized as follows: cutting metals by using plasma, designing interior and exterior lighting for buildings and surveillance rooms, sharpening and brushing cutting tools/ machine for brushing tools, preparation of program and electrical maintenance instructions for machinery and electrical appliances, diagnosing the measurement appliances and maintenance, preparatory programs of preventive maintenance, following instructions and plans to assemble electronic appliances/ feeding units and examination appliances, operating space receivers and central aerospace equipments, preparation of the path for lines of system networks of cold and hot water and sewer networks, layout and installation of cold and hot water networks and sewer networks and assembling parts cutting and threading steel, wapper and plastic pipes, laying out and installation of water network lines and insulation of pipes and assembly parts, assembling solar units and solar water storage and installation of water pumps and connecting them with pipe network, transporting, preparing, and handling materials, tools, and necessary equipment for central air conditioning system operations, reading executive plans and drawings for residential parts of elevator, assembling and operating security systems and measurement and calibration of appliances.

It is possible to accommodate existing demands through continuous training programs, enlarging increasing efficiency courses and diversifying them, which are considered specialized and specified to a large extent. The study assures that the necessity of institutions providing training to take into consideration this existing demands, In

addition, assurance on the part of institutions providing demanded training programs from business owners and in every region of the Kingdom. these programs can be merged with existing programs or they can be executed on the basis of courses/ programs to increase technical efficiency.

With regards to the nature of general skills which support employment on both supply and demand sides. Clearly, the institutions providing training programs provide all of skills which are demanded by business owners to an enough degree. In addition to other additional skills which are not mentioned by business owners. Hence, there is no gap between supply and demand when it comes to general skills which support employment in the electro mechanical assemblies.

The gap analysis between supply and demand for females indicates that there exist a future demand for females to work in this sector estimated to be (8) job opportunities only during the years (2014-2016). This demand is distributed within administrative and limited technical careers. In addition, we find that there is supply of females, since sampling data pointed out that (669) female trainees have graduated from the different institutions providing training which are included in the study sample. Here, we notice the preliminary numerical gap between what is supplied and what is demanded (661 females with no demand to absorb them within the electro mechanical assemblies sector).

Looking at the details of demanded skills and the female graduated supplied specializations, we notice that there is a large malfunction which is clear in the labor market in this sector. We notice that there is no match between supply and demand, and that there is a gap in some specializations in favor of supply (unemployment indicator) in the electro mechanical assemblies sector for females during the years (2014-2016).

As far as the percentage gap between supply and demand for handicapped people, the results of survey indicates that there are (2) operating establishments in the electro mechanical assemblies sector are willing and able to provide (2) job opportunities. From another point, no one from the handicapped group graduated from any program provided by institution offering training programs for handicapped people in the electro mechanical assemblies sector. There are no training programs which are specially offers for this group. In addition, the nature of work requirements in the electro mechanical assemblies sector which are not suitable with the nature of some individuals from this group in society. Therefore, the study finds that there is a big limitation in providing training programs to serve the handicapped people in the electro mechanical assemblies sector and finally the study insist on the necessity of providing training programs which suitable for this group of society.

Based on all of the above, the study recommends that it is necessary for the employment-Technical and Vocational Education and Training Council to form national groups to be responsible for drawing sectoral policies in the area of training and employment of the Jordanian labor Force in the electro mechanical assemblies sector.

In addition, the institutions providing training should take the responsibility to review and develop demanded training programs in the sector.

In addition, they should work on merging real lively and pioneering skills, which support employment, in a compulsory package in all their training programs.

Furthermore, these same institutions should cancel any training programs which are not demanded by the labor market of the sector. Also, the study recommends that it is necessary for the Ministry of Labor to implement the gradual substitution of Jordanian Labor for expatriate labor.