

**SÜRDÜRÜLEBİLİR ENDÜSTRİNİN İŞ YARATMADAKİ ROLÜ: ERBİL ÖRNEĞİ<sup>1</sup>**  
**THE ROLE OF THE SUSTAINABLE INDUSTRY IN JOB CREATION: A CASE STUDY IN**  
**ERBIL PROVINCE**

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**ÖZET**

Sürdürülebilir endüstri bir dizi krizin tepkisidir. Sürdürülebilir endüstri, çevre dostu projelerle ekonomik kalkınma sağlamayı ve yenilenebilir ve temiz enerjiler alanında yeni teknolojiler kullanmayı hedeflemektedir. Enerji kullanımı, kaynak tüketimi ve atık geri dönüşümü ile üretim yoğunluğunu azaltmanın yanı sıra, mevcut endüstrileri yeşilleştirmeye, yeni sürdürülebilir endüstriler yaratmaya ve sürdürülebilir olmayan tüketim modellerini değiştirmeyi amaçlamaktadır. Öte yandan, sürdürülebilir endüstrinin ekonomideki değişkenler üzerinde ne gibi etkilere neden olabileceği konusu da dikkate alınmalıdır. Bu çalışmada sürdürülebilir endüstrinin iş imkanları yaratma ve istihdam üzerindeki etkileri Erbil örneği için incelenecektir. Bu amaçla öncelikle konunun kavramsal boyutuna yer verilecek, daha sonra Erbil örneğine ilişkin veriler üzerinden konu tartışılarak konuya ilişkin sonuçlar ve öneriler ortaya konacaktır.

**Anahtar Kelimeler:** Sürdürülebilir Endüstri, İstihdam, Çevre.

**ABSTRACT**

Sustainable industry is the response of a series of crises. Sustainable industry aims to achieve economic development through environmentally friendly projects and to use new technologies in the field of renewable and clean energy. Energy use, in addition to reducing production intensity through resource consumption and waste recycling, aims to green existing industries, create new sustainable industries and change unsustainable consumption patterns. On the other hand, the effects of sustainable industry on the variables in the economy should be considered. In this study, the effects of sustainable industry on job creation and employment will be examined for the case of Erbil. For this purpose, firstly, the conceptual dimension of the subject will be given, then the subject will be discussed over the data related to the Erbil case and the results and suggestions will be put forward.

**Keywords:** Sustainable Industry, Employment, Environment.

**1. INTRODUCTION**

The sustainable industry is significant to the researchers and the scholars on their different intellectual orientation, since gaining this process paramount importance in the light of significant developments and unprecedented in the contemporary world on all directions. That transformed the world's sprawling into something like a small village intergalactic, being aimed at sustainable industry and construction job creation and the development of branches of the national economy and raise the level of economic performance (Smaqaey, 2017). Moreover, what was the province of Erbil with specific privacy areas are available in which the elements of economic development, developmental movement, economic and social witnessed with unique features of its geographical, political and social reality of Erbil. The region's economy suffers from the lack of sustainable industry that hinders the process of development and sustainability of crashes, thus lead to stalled development process despite on the availability for the required resources (Smaqaey, 2017).

The sustainable industry subject has become a great deal of global attention, particularly in developing countries that are looking to industry must respond to the requirements of the times and gaining the

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ability to continuity developed. The number of studies concerning the relationship between sustainable industry and economic variables are limited. Our study will make a contribution to the literature on the relationship between economic variables and sustainable industry.

The study is organized into six chapters; the first chapter consists of the study background, the second chapter contains the literature about the variables used in the analysis part of the study, the third chapter is about the conceptual review on the industrial sector and the sustainable industry. The fourth chapter reveals the Erbil industry in brief and gives information about the reality of the sustainable industry and unemployment. The fifth chapter contains the data about the sustainable industry, unemployment for selected years in Erbil region. The sixth chapter is about the relationship between sustainable industry and unemployment. Finally, this study concludes with recommendations and suggestions.

## **2. LITERATURE REVIEW**

The purpose of this chapter is to discuss the literature review related to the study variables besides defining them. Marianna et al. (2016), examined sustainable development, industrial development, environmental performance in manufacturing from the perspective of technology and consumption. According to them, industrial development is always the main engine of economic growth, given the critical economic proliferation and technological opportunities. However, manufacturing sectors are directly and indirectly responsible for a large part of the overall environmental pressures and raise concerns about the environmental sustainability of industrial development. Therefore, in this research, drivers are evaluated, and environmental trends separated from production and consumption for a large group of developed and developing countries.

Klarin (2018), explored the concept of sustainable development and noted that it had witnessed various development stages since its introduction. Moreover, Klarin saw the historical growth of the concept of participation from multiple organizations and institutions, and work intensively at present to implement their principles and objectives. While this concept has criticized and interpreted over time, it has accepted in various areas of human activity, and the definition of sustainable development has become one of the most frequently mentioned in the literature. In its evolution, the concept adapted to the contemporary requirements of a complex global environment, but the basic principles and objectives, as well as the problems of waking up in their implementation, remained almost unchanged. Thus, some goals have updated, and new targets have set. However, Klarin argued that these goals are united in the framework of the Millennium Development Goals 2015 which outline the challenges that humanity has to fight not only to achieve sustainable development but to survive on planet as well.

Zodape et al. (2015), analysis sustainable industrial development, while, industrialization is essential for economic growth. The researchers pointed out that not only is the natural course of development, but as a result of the globalization of the manufacturing industry, the pace of growth can explosive. Thus, many countries have reached higher levels of development in all its economic, social and environmental dimensions - for the benefit of their peoples. However, future strategies for poverty reduction essential to be economically enabled to respond to these challenges to promote inclusive and sustainable industrial development. The industry of sustainable development is a challenge from all parts of society.

Aishath et al. (2017), investigate the role of employment in achieving sustainable development and the domestic tourism market of small island developing states. Therefore, the researchers argued that many development constraints faced by many small islands developing states, these governments had encouraged industrial tourism in policy agendas because it will enhance the lives of local people through employment creation and subsequent increase in income levels. Using the case of the Maldives, this research explores the extent to which local employment integrated into a sustainable development model. This research, however, indicates that the Maldivian tourism industry has affected by the significant number of social, human, economic and institutional and religious factors that influence the attraction and retention of the right of local people to employment in tourism.

Ayinde et al. (2018), in this research they analyzed economic growth rate and subsidized labor resources. Thus, this research knocks on the Okon law to study patterns of economic growth in Nigeria while it

used an increasing equation for recruitment and time series data between 1980-2015. It is clear that the Nigerian economy is moving towards a market-driven service with many drives from infrastructure development, reducing the level of unemployment, the government must focus on population growth and compensation of workers in the state. The increase must be sectorally biased that the industrial and agricultural sector will be an indispensable condition for overall growth in Nigeria.

When the literature is examined, it can be seen that there is no study discussing the relationship between sustainable industry and job creation for the case of Erbil City. This study aims to identify the effect of sustainable industry in employment creation and economic repercussions on the economic and social reality, as well as study and analysis of industrial reality in the Erbil province, in the light of the economic and social dimensions of sustainable industry. The methodology for this study is adopted analytical approach with focusing on data analysis to the study of inductive and analyze the effect of the industry in sustainable employment creation in the Erbil province.

### **3. CONCEPTUAL FRAMEWORK**

#### **3.1. Sustainable Development**

Sustainable development stems from the principle of ensuring that the ability of future generations to meet their needs not compromised. So, this requires that natural resources not depleted when they meet the energy needs of the modern generation. So, this generation's duty to adopt sustainable development through interaction the economic, society, environmental protection from pollution, and natural resources from depletion (Asefa, 2015).

#### **3.2.. The Concept of Sustainable Industry**

According to Roomy (2009), the human activities on this planet cause problem for the environment and after the world hit the phenomenon of global warming, where the high temperature of the globe and the pollution spread in the world. Which threatens the sustainability of life due to many reasons, including the remnants of factories and smoke and increases transport and exhaust cars and the expansion of housing in calculating green spaces, shrinking forests.

Sustainability in the industry is also essential because other types of industries are less efficient regarding toxic emissions became clear to all and in recent years has seen interest in several crises, including unemployment and widespread demonstration of poverty, deprivation and industrial pollution among communities. Thus, pollution led the international community to think and encourage the increase in investment in the environment as a basic requirement along with the social and economic demands for sustainable development (Mikler, 2009).

Thus, Komiyama & Kraines (2008), mention that recycling is a new industry in itself. It achieves goals on the three fronts of sustainable development, such as social, economic and environmental goals, to replace hazardous toxic substances in industry, with toxic substances matching production, technology and attracting individuals to the labor market because the change in technology leads to increased capital and highly skilled workers. So, this shows an increase in demand for highly skilled workers.

Sustainable industrial development means that business and industry would be compelled to adjust their product mix and production structures. The industrial policy must supplement to the provision of this amendment. So, this objective requires a cohesive approach to sustainable development, boost greater coherence among environmental and industrial systems and strengthen the role of business and industry to sustainable development (European Commission, 1999). Ecological and industrial policies are essential cornerstones for sustainable development, and the increasing interdependence between economic and environmental policies. (Environmental Advisory Council, 2013).

#### **3.3. Unemployment**

According to Michael et al. (2017), the problem of unemployment is one of the main problems facing all developed and backward countries, but in different ways, also it depends on the financial capacity of a country, where the labor market imbalance between supply and demand that the economic policy of these countries responsible for the imbalance and economic crises.

Although Azim (2008), defines unemployment as the residents outside the labor force such as students continuing to study, disabled persons are unable to work, and the elderly are over 60 years old. Also, imprisoned in prisons, job seekers, temporary workers, and those can work and have a role and a contribution to economic activity and call them the labor force. According to Michael et al. (2017), the growth of the economy has increased the environmental risk, and its effects exceed the expectations of the best. It is best to move the labor market policy shortly to green jobs because environmental degradation linked to economic growth green jobs are new job opportunities contribute to reducing the unemployment rates deepened by the global financial and economic crisis (Tangi, 2005).

### **3.4. The Role of Sustainable Industry in Job Creation**

While changing the face of the residential and commercial building and be prepared by engineers to be a green color to symbolize the preservation of the environment the cultivation of some organic crops by organic farmers does not require. So, the use of pesticides in the future the professional conservatives are working to preserve and protect nature and become a known task for them the orientation to a green and clean environment led to the research and invention of renewable energy (Farrell, 2011):

*The process of education and sustainability:* addition of environmental curricula in educational institutions at all levels, as well as the original programs for children in the summer vacation time to learn about the environment and this, needs to employ unemployed teachers in this field.

*Waste disposal specialist:* Environmental sustainability refers to the health of all-looking and recycling waste prevents malignant diseases from spreading among people (Koldest, 2000).

*Electric Vehicle:* A feature of the sustainable industry in the past few years the invention of cars that operate on electricity rather than gasoline has contemplated (Koldest, 2000).

*Camp counselor:* The advisor supervising the camp has a significant role in educating the children and cultivating love and respect for the natural environment to become workers in the service of the green environment in the future (Farrell, 2011).

*Public parks guard:* The parks and municipal parks throughout the country need to guard in order to preserve the beauty of the natural areas which can be visited by the citizens and foreigners which are elements of a tourist attraction for tourism it has a substantial financial return. The shift towards renewable energy and the establishment of alternative energy projects have a significant and active role in creating jobs because the establishment of projects such as solar energy wind power and other renewable energy sources needs specialists and workers.

### **3.5. The Importance of Sustainable Industry**

According to Aidan (2015), eliminating unemployment by creating green jobs and relying on clean technology that means a transition to a labor-intensive economy creates renewable energy alternatives such as solar wind and other technologies as well as low-carbon technologies. Moreover, advances in renewable energy which will boost economic growth improving the efficiency of energy use in the transportation sector, based on the use of clean fuel thus contributing to economic benefits the most important is the environment saving.

## **4. A BRIEF EXAMINATION OF ERBIL INDUSTRY**

This chapter aims to provide a brief examination of industry in Erbil It is essential to discuss the reality of the manufacturing industry in the province, the reality of the industry, and the reality of the sustainable industry, and unemployment. While, the second part of this chapter discusses the environmental problem of industry, industry pollution namely air pollution, water pollution, soil pollution, and recycling.

### **4.1. Economy of Erbil**

The Erbil city has long associated with commercial relations with neighboring cities as well as with other Iraqi cities such as Mosul and Bagdad besides being a commercial Erbil city is one of Iraq's main commercial gates with Turkey and Iran. However, Erbil has a safe and stable environment, so it has become an international trade center it holds more than 15 international and specialized exhibitions with

the participation of hundreds of international trading companies (Abdullahim, 1999). Erbil is a commercial center and gateway to Iraq as a whole; it imports the products of various countries to Iraq, and there are currently dozens of companies and exhibitions specialized in the import of cars, such as Toyota, and Nissan of Japanese and Korean, as well as German Schubert and Skoda, and others, in general, most of the city's residents work in the fields of agriculture, trade, industry and some of them work in government departments and institutions (Sharef, 1998).

#### 4.1.1. Sustainable Industry in Erbil

According to Nolberto (2005), there is no doubt that the pollution of the environment threatens human health industrial revival in Western countries, which resulted in the export of industries is useful and polluting the environment, both talking about the expected shortage of energy and conflicts over energy. Moreover, perhaps wars on energy sources depleting its non-renewable resources over time, the move towards reliance on renewable energies in the industry and the generation of electric energy to protect the environment from the carbon emissions that threaten our planet.

While sustainable industries will improve the environment represented in reducing carbon, global warming and contributing to the elimination of unemployment and social justice. The optimal use of natural resources promotes sustainable development. Therefore, it is essential to provide the necessary employees and qualify them to deal with technology as well as provide funding for industrial projects based on this technology by facilitating investment in sustainable industry (Stoica, 2018).

**Table 1. The Data of the Sustainable Industry in the Province of Erbil**

Type of Sustainable Industry	Number of Sustainable Industries	Number of Workers
Fat filter	24	368
Reuse tires	2	16
Garbage recycle	2	26
Plastic recycling	2	20
Recycle tire	1	30
Carton rem manufacturing	1	5
Recycle batteries	2	12
Re-slicing	1	8
Refurbished tires and defrosting tires	1	7
Grease the cars from the used fat filter	1	8
Recycling batteries	3	21
<b>Total</b>	<b>40</b>	<b>521</b>

**Source:** Trade and Industries Statistics Department.(2018).

The sustainable industry is an urgent necessity due to it is economic, social and environmental benefits. Table 1, above shows that it deals with the problems caused by the manufacturing process because unemployment is growing among factories because of a lack of natural resources and depletion and environmental damage. The sustainable industry contributes to the creation of employment opportunities by (521) job opportunities through the establishment of (40) factories have absorbed unemployment according to their productive capacity and may increase the number of factories because of economic, social and environmental benefits (Trade and Industries Statistics Department.(2018).

#### 4.1.2. Unemployment in Erbil Province

The problem of unemployment is increasing because it linked to political circumstances In the province of Erbil in 2004 was (4.7%) but due to (7.9%) in 2012 was the reason for the decline is the expansion of urban services and the expansion of factories. Moreover, this contributes to the creation of new employment opportunities, but the level of employment is no longer increasing in 2014 because of the deterioration of the relationship between Erbil and the central government in Bagdad on the side and the instability of the security situation to rise and reach 13.45 % in 2015 as revealed in Table 2.3.

As shown in Table 2 below, the number of employees increases between the period 2011 to 2013, the number of employees exceeds the needs of Erbil province. So, this is a challenge to solve the problem

of unemployment in Erbil province. Moreover, the reason for this excellent labor policy of pleasing people and winning people's voices and opportunities in favoritism, nepotism, part of the ordinary people and unemployed youth this challenge led to inflation in government departments and increased disguised unemployment. Moreover, high operating expenses of investment expenses as well as increasing the cost of providing services to citizens.

**Table 2. Unemployment in Erbil Province**

Province	2004	2008	2012	2015
Erbil	4.7%	13.22%	7.5%	13.45%

**Source:** Trade and Industries Statistics Department.(2018).

While, the Erbil province faces a large number of workers coming from inside and outside Iraq, including neighboring countries and other Asian countries starting in 2009 and declining year after year, but stopped in 2014 the current number 15100 of the expatriate labor to Erbil is a competitive procedure for domestic work. So, this complemented by the number of workers to compete with local labor, leading to low wages and the reluctance of young people to work, which is a challenge to solve the problem of unemployment and create jobs for citizens in the province.

## **5. THE ROLE OF SUSTAINABLE INDUSTRY IN JOB CREATION: A STUDY FOR ERBIL PROVINCE**

This chapter aims to analyze and discuss the state of the sustainable industry sector and its impact on unemployment in Erbil province between the period 2007-2017 through the presentation of data and information collected from various sources..

### **5.1. Sustainable Industry Fat Filter**

Table 3. displays that the sustainable industry in the reuse plant depends on the waste of used car fats and is re-manufactured then used more than once. From the beginning of 2007, there were ten factories and (264) employees worked in these factories. However, over time, the increase in industrial waste and the damage to the environment on the one hand and the increase in unemployment, on the other hand, increased their number in 2017 and reached (25) factories.

**Table 3. Sustainable Industry Fat Filter in Erbil Province between 2007-2017**

Years	Active Factories	Industries working indeed	Number
2007	10	10	264
2008	10	10	264
2009	13	13	299
2010	13	13	299
2011	13	13	299
2012	20	20	354
2013	22	22	372
2014	24	22	387
2015	25	25	393
2016	25	25	393
2017	25	25	393

**Source:** Trade and Industries Statistics Department.(2018).

So, when we check Table 3, this increase created employment opportunity for some unemployed workers, where the number of workers (293), and were all industries active and continuous work and did not register any unemployed worker that the production in these factories is not for export. However, the production process in these factories entirely depends on local inputs. The pollution percentage in permanent factories is low and contributes to the reduced pollution of the environment by a large percentage. The inputs used are wastes left by other industries (non-conventional) that pollute the air, soil, and water. So, inputs turn to production by (100%) because of the absence of industrial waste only a few.

### 5.2 Sustainable Industry Reuse Tires

As revealed in Table 4 the sustainable industry in the tire reuse plant depends on the waste of tires used and is being re-manufactured to using more than once. It appears that at the beginning of 2007 there was one factory and the number of workers was (12) only. While, this industry increased in 2017 to (9) factory, and all industries active and continuous work, thus, no factory stopped and did not register any unemployed worker. However, the production process in these factories entirely depends on local inputs. The percentage of pollution in permanent factories is low and contributes to reducing environmental pollution by a large percentage. The inputs used are wastes left by other industries (non-renewable) that pollute the air, soil, and water.

**Table 4. Sustainable Industry Reuse Tires in Erbil Province between 2007-2017**

Years	Active Factories	Industries Working Indeed	Number of Workers
2007	1	1	12
2008	1	1	12
2009	1	1	12
2010	1	1	12
2011	3	3	28
2012	4	4	58
2013	5	5	70
2014	6	6	75
2015	8	8	88
2016	9	9	92
2017	9	9	92

**Source:** Trade and Industries Statistics Department.(2018).

### 5.3. Sustainable Industry Garbage Recycle

Table 5, illustrates that the sustainable industry in the waste reuse plant depends on the residues of industrial and household fats used and re-manufactured to reuse. At the beginning of 2007, there was (1) factory, and the number of workers was (20) workers. With the passage of time and the increase in industrial waste and its damage to the environment on the one hand and increasing unemployment, on the other hand, did not increase their number in 2017 and remained constant (1) one plant and yet contributed to the creation of jobs, albeit a little where the number of workers (20).

**Table 5. Sustainable Industry Garbage Recycle in Erbil Province Between 2007-2017**

Years	Active Factories	Industries Working Indeed	Number of Workers
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	1	1	20
2012	1	1	20
2013	1	1	20
2014	1	1	20
2015	1	1	20
2016	1	1	20
2017	1	1	20

**Source:** Trade and Industries Statistics Department.(2018).

The industry is active and continuous in work. While production in this factory is not for export, however, the rate of dependence on the production process entirely on local inputs. The percentage of pollution in permanent factories is low and contributes to environmental pollution by a large percentage.

### 5.4. Sustainable Industry Plastic Recycling

As revealed in Table 6., it appears that a sustainable industry in the plastics reuse plant is dependent on the residues used and is being re-manufactured again to reuse. So, at the beginning of 2011, there was one factory, and this factory provides a job for (12) workers. However, in 2017 these industry increased (3) factories. While the number of workers (27). Moreover, all industries were active and continuous work. The productions in these factories are not for export. Hence the rate of dependence on the

production process entirely on local inputs. The percentage of pollution in permanent factories is low and contributes to environmental pollution by a large percentage.

**Table 6. Sustainable Industry Plastic Recycling between 2007-2017**

Years	Active Factories	Industries Working Indeed	Number of Workers
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	1	1	12
2012	2	2	18
2013	2	2	18
2014	3	3	27
2015	3	3	27
2016	3	3	27
2017	3	3	27

Source: Trade and Industries Statistics Department.(2018).

### 5.5. Sustainable Industry Carton Remanufacturing

As summarized in Table 7, the results of the sustainable industry in the carton reuse plant depends on the residues of the cartons after it used and re-manufactured. From 2007 to 2017, there was one factory, and the number of workers was (6) workers. However, this industry remained constant unchanged, creating jobs for a small number of unemployed workers, where the number of employees (6) workers was the only industry active and continuous work was not suspended and did not register any unemployed worker in this plant.

**Table 7. Sustainable Industry Carton Remanufacturing between 2007-2017**

Year	Active Factories	Industries Working Indeed	Number of Workers
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	1	1	6
2014	1	1	6
2015	1	1	6
2016	1	1	6
2017	1	1	6

Source: Trade and Industries Statistics Department.(2018).

While production in this plant is not for export, however, over the period indicated the rate of dependence on the production process on inputs from outside the country shifted to 0%, and local inputs increased to 100%. The percentage of pollution in permanent factories is low and contributes to the pollution of the environment by a large percentage.

### 5.6. Sustainable Industry Recycle Batteries

As presented in Table 8 below, the result shows that the sustainable industry in the battery reuse plant depends on the waste of imported batteries which have used and re-manufactured. From the beginning of 2013, there was just one factory, and the number of workers was (12). Despite the increase in industrial waste, the damage to the environment on the one hand and the increase in unemployment, but this industry not growth enough, and their number in 2017 (2) factors.

The creation of employment opportunities for some workers, the number of workers (17). Moreover, the two industries are active and continuous at work. The production in these factories is not for export.



Thus, it is of economic benefit but to protect the environment from pollution. The production process in this industry entirely depends on local inputs. The percentage of pollution in permanent factories is low and contributes to the reducing pollution of the environment by a large percentage.

**Table 8. Sustainable Industry Recycle Batteries between 2007-2017**

Years	Active Factories	Industries Working Indeed	Number of Workers
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	1	1	12
2014	2	2	17
2015	2	2	17
2017	2	2	17

**Source:** Trade and Industries Statistics Department.(2018).

### 5.7. Employment Data

As presented in Table 9, unemployment in 2008 was 13.22%, and the reason insecurity in the provinces in the south and central Iraq. While, many of them migrated to the Erbil province, and their impact was evident on the supply in the labor market. However, in 2011 security and economics changed, and increases in the housing projects and other industries the unemployment rate fell to 7.3%. So, this was a decrease compared to 2008, and the rate of change was 5.92%. In 2012, economic stagnation continued because of the high price of oil in the oil markets. So, this was the reason for the continuation of the process of economic growth and job creation. The unemployment rate was close to 2011, where there were no significant changes. The unemployment rate was 7.9% compared to 2012. The unemployment rate in 2013 was 7.5% due to increase investment in the real estate sector, so, the rate of change was (0.4).

However, in 2014, signs emerged of the economic crisis in the province due to attacks by ISIS terrorist groups, preoccupation with military expenditures and low oil prices on the one hand, and cutting off the budget from Bagdad on the other, which led to the suspension of projects in the economic sectors. The emergence of unemployed again and the high rate of unemployment but gradually recorded by 7.13% and the rate of change was 0.8% compared to 2013, the rate of unemployment began to rise without falling because the economic and political conditions did not help it. The year 2015 is the worst year to record high unemployment rate where the unemployment rate 13.45% and the rate of change was 6.32%, and this is the highest rate of unemployment in the province after 2008.

**Table 9. Data on Unemployment in Erbil Province between 2008-2015**

Year	Percentage	The Rate of Change
2008	13.22%	0
2011	7.3%	5.92%
2012	7.9%	0.6%
2013	7.5%	0.4%
2014	7.13%	0.8%
2015	13.45%	6.32%

**Source:** Trade and Industries Statistics Department.(2018).

While, these results confirm the problem of unemployment as a chronic problem in the Erbil province, and it has political, economic and social dimensions and there was no radical solution to remove the problem. Moreover, all the solutions were temporary, and the projects that were providing jobs were not sustainable, and with the end of projects returned unemployment reappeared, the researcher also realizes the unemployment rate volatile during the period indicated.

However, public sector management of economic activities and job creation at high wages the private sector has not called to grow as an independent sector to be an assistant in the capacity of the public sector to generate more jobs. The problem of unemployment is a structural problem because the education sector produces an army of the unemployed each year due to lack of the outputs of education conform to the requirements of the labor market and employed in the public sector in order to obtain their satisfaction and to obtain their votes in the elections and this leads to:

- a) Inflation in state circuits and increased concealed unemployment.
- b) The increase in operating expenses on account of investment expenditure.
- c) Increase the cost of public expenditure.

## **6. THE RELATIONSHIP BETWEEN SUSTAINABLE INDUSTRY AND EMPLOYMENT CREATION**

The study findings confirmed that a sustainable industry contributes to creating new jobs. For example, the participation rate of the unemployed in the sustainable industry is 520 workers out of a total of (40) factories. The recycling industry registered in Erbil province provides job opportunities for young men and women in Erbil. Thus, reduced the levels of unemployment as the recycling project based on the workforce in the field of sorting organic waste and then sorting each type of waste on the one hand — moreover, the project based on increasing the dissemination of environmental awareness. There is a necessity to carry out environmental awareness campaigns, recycling workers, such as paper recycling factories and those recycling plastics in the province, employ a multitude of young men and women. The facts show the importance of recycling for the environment as it reduces the volume of waste. Moreover, thus reduce the substantial growth in the volume of industrial and household waste and reduce the increasing pressure on natural and environmental resources.

## **5. CONCLUSION**

The sustainability of industries has become a focus point for research in recent years. Hence, it is necessary to conduct a comprehensive survey of sustainable industries to achieve an integrated vision of the sustainable industries existing in the province while identifying accurate details of each facility including its daily problems.

There are limited number of studies concerning the sustainable industry and macroeconomic variables in Iraq. Besides there are no study about sustainable industry in Erbil. This study tries to determine the relationship between macroeconomic variable and sustainable industry. The results of this study will help to envisage what needs to be done to sdevelop a sustainable industry in the future in Erbil Region. The examination of the components and possibilities of a sustainable industry in the province of Erbil show that the province has many potentials and possibilities for the establishment of the establishment of sustainable industry, as there are in the province many types of industrial waste and others. The province has a large number of labor, including large numbers of graduates with different competencies, and a relatively good network of paved roads with overlapping paths covering almost all regions, thus creating the possibility of settling various sustainable industrial projects in most regions. There is no industry for renewable energies in the province of Erbil all existing devices imported. While the study also confirms the absence of the role of financial institutions and banking in the financing and support of industrial institutions, there is little role for banks in the revitalization of industry, that many of the current industries in the province had created in the past with the assistance of the industrial bank. Which had a more significant role in the seventies and eighties and shares in the creation and development of many industries, but to stop it from performing its essential duties is a weaker sector. The private investments employed in the industrial sector is still weak for several reasons, foremost of which is the instability of the security situation in other parts of Iraq and the impact it has on the situation of Erbil, resulting in the direction of investors' savings towards real estate speculation and commercial operations away from investment areas Industrial.

The study found that sustainable industries are environmentally friendly and provide job opportunities for the unemployed and preserve the environment. The results are similar with the results of the studies given in the literature part of the study. The government in Erbil has tolerated most of the obstacles, such as foreign trade, high taxes, rents, many fees, lack of services and electricity shortage, as well as

multiple laws, legislation, and administrative procedures. Results of the study also confirms the absence of the role of financial institutions and banking in the financing and support of industrial institutions, so there is little role for banks in the revitalization of industry, that many of the current industries in the province had found in the past with the assistance of the industrial bank.

The study findings and conclusions provides some of the proposals and recommendations. That may have importance in the development and development of manufacturing industries in the Erbil province. The authorities in Erbil and Iraqi government should provide a pivotal role in the sustainable industry within the framework of the national economic program since the sustainable industry is the cornerstone of the development of the national economy. Increasing sustainable industries in order to provide job opportunities for the unemployed.

It is essential to work to address the problems and remove the obstacles facing existing projects for sustainable industries through the provision of facilities and subsidies and other inputs necessary to develop these environmentally friendly industries. The development of production methods, the introduction of modern technology and the replacement of obsolete machinery and machinery in proportion to the new production art in order to increase productivity regarding quantity. Moreover, optimum utilization of productive capacities, in order to increase productivity and increase production at the lowest costs.

It is also significant to review the current tax system in order to mitigate its adverse effects on the activities of sustainable industries of the private sector, as well as establishing legal controls that govern the tax assessor. So that the assessment of personal qualities and the qualitative assessment of the amount of tax imposed on sustainable factories providing banking facilities by financial and banking institutions regarding guarantee and payment and revitalizing. The role of the industrial bank in supporting the private sustainable industries by providing the appropriate capital for carrying out its primary role in granting loans and advances and other banking operations in order to encourage investors towards them and attract them. The authorities in Erbil and Iraqi government should encourage industrial investments, including foreign ones, which help to establish new sustainable industries and employ idle productive capacities, as well as encourage the private sector to engage in renewable energy projects through the provision of incentives and facilities such as tax reduction, support, and facilitation of incorporation procedures.

The authorities in Erbil should issue restrictive laws to use renewable energy in all new factories, tourist villages and factories with high consumption of electricity such as cement and ceramics production. Further, encouraging private investment and directing it towards a sustainable industry by continuing to enact legal legislation and providing tax exemptions and protection against imported goods. Moreover, for certain periods and also, encouraging unemployed workers to participate in rehabilitation courses in order to develop their talents and move from the brown economy to the green economy and to obtain a sustainable job opportunity and preserve the environment.

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