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### **Towards More Effective Industrial Policies To Activate Decaying Growth Centres In The Developing Countries – Egypt Case**

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#### **ABSTRACT**

The industrial sector as most of any economic cycle face the risk of decaying especially in developing countries which are losing industrial attraction advantages and face the process of dis-agglomeration besides that they have not the abilities to increase the innovation capacities and the whole industrial system is characterized by rigid specialization those all lead to closed market structure. Egyptian's economy recently showed signs of decaying and using the five major statistical indicators -measured at five different scale time- to identify the industrial decaying we found around 51.6% of growth centres face the problem of industrial decaying while 25% of growth centres classified as stagnated centres. Those indicators reflect the critical needs to find more effective activation policies to help in remedy the present decaying. Some of those policies revolved around creating 'technology districts' and 'increasing learning process.' The others need more incorporation of innovation to open new markets and resources besides pumping new industries and promote a cluster of firms. Increasing the level of specialization, in the long-term, will give a good result while establishing the industrial corridors will help in the short run.

**KEYWORDS:** Growth centres (GCs) – Industrial decaying – Activation policies – Egypt - developing countries.

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## INTRODUCTION

There is no doubt that the industrial sector considers as the pusher of the economic development especially in the growth centres which create mostly to develop the backwards areas and decrease the development disparities. However, the phenomenon of industrial decaying spread overall the world in developed countries as well as the developing. Boschma & Lambooy, 1999<sup>1</sup> mentioned some examples of industrial decaying regions in Europe like Ruhr-area, Wallonia, the Liverpool region, the Tyne and Wear region, and (possibly) the Pittsburgh and Detroit region.

The industrial decaying in the old industrial regions has observed in the mature industries as well as the low growth potential regions, and the decaying happens in highly specialized industries or the low technological industries such as steel, shipbuilding, and textile among others<sup>1</sup>.

### 1- Meaning of decaying

Cambridge dictionary mentions the meaning of decay as *"to become gradually damaged, worse, or less; to cause something to do this."* Another meaning in dictionary mentioned as *"to decrease usually gradually in size, quantity, activity, or force"*<sup>2</sup>.

Schilling and Logan, 2008<sup>3</sup> define decaying cities as a "special subset of older industrial cities with significant and sustained population loss (25% or greater over the past 40 years) and increasing levels of vacant and abandoned properties, including blighted residential, commercial, and industrial buildings".

### 2- The importance the decaying studying

Any growth process goes hand by hand with the decaying process<sup>4</sup>, so for any development change growth is essential, and study of decaying more than vital as it can quickly stop any development efforts. Collits, 2000<sup>5</sup> believes in study of growth/ decaying is essential indicators helps to identify the economic strength especially for a regional community.

Study of decaying in the recent situation will affect the development in the future, decaying effect the spatial distribution of the economic activity besides the enormous impact on the low-levels development and low-income society. King et al., 2012<sup>6</sup> argued that recent development literature recognizes that there is a circular and cumulative relationship between current developments and future development. Depending on that decaying affecting the standard of living, and literacy now and in the future.

Decaying, especially in the economic sector, happens in both developed and developing countries, Dijkstra, 2010<sup>7</sup> believes in the economic decaying can occur in all types of regions, is influenced by the level of a country's development. To ensure stable development level should maintain regular decaying study.

Urban development it's susceptible to the harmful effects of the decaying process, Berg, et al., 1982<sup>4</sup> consider the urban development is a reflection of societal development and manifest themselves in all fields of human behavior. Economic development, social changes, environmental factors, transportation, and finance all play their role in determining the development of the urban system. If we do not observe the indicators of decaying, it will lead to collapse the whole system.

### **3- The industrial decaying**

Industries play an essential role not only in creating employment but also because they affect the provision's potential since their final products represent provisions for the population. Location is important, for industry must have access to an adequate market in which to sell its products and be accessible to the inputs required in its production process<sup>4</sup>.

In addition, the industrial sector also plays a role in supporting the growth centers because of its strong driving force to the economy, which creates a front and backward relationship. Even among countries that have grown the most rapidly over the past 20 years or so, long-term agricultural growth rates never exceeded 5 percent, a rate of growth that is common in services and manufacturing. Dealing with urbanization and accommodating cities that grow rapidly because the dynamic manufacturing and services sectors locate there is an inevitable part of achieving sustained high growth<sup>8</sup>.

### **4- Reasons of the industrial decaying**

#### **i. Losing of attraction advantages**

Berg et al., 1982<sup>4</sup> see every industry is correlated in many ways with the location of the population and other industries. Nevertheless, GCs continue to attract new industries; their demand may send land prices up, causing the city to become in due course a sub-optimum location for firms of older urban standing but which are less productive in relation to the area they occupy. But even if an area remains virtually the same, it may lose some of its attraction as time goes simply because other regions are becoming more accessible for new infrastructures such as rapid transit systems.

#### **ii. The process of dis-agglomeration**

Steiner, 1985<sup>9</sup> stress the fact that the nature of 'agglomeration economies' may be changing through the various stages of the life-cycle. After a certain size of a city, dis-agglomeration economies (or diminishing returns) are believed to come into being, caused by congestion effects, high labor and land costs. They explained the gradual loss of agglomeration economies in terms of the tendency of markets to become Monopolistic and vertically integrated into the course of time. This reduces the opportunities for new firms to benefit from agglomeration economies.

Richardson, 1978<sup>10</sup> claimed that overcrowding and congestion, creates negative external effects tend to become larger than the positive external effects, or the marginal social costs become larger than the marginal social benefits.

**i. Poor innovation capacities**

The poor innovative capacity of old agglomerations is largely explained in terms of the negative impacts of large, vertically-integrated corporations on their local environment<sup>1</sup>. Storper, 1992<sup>11</sup> mentioned the possibility of technological lock-in effects, in which the historical accumulation of knowledge, skills, and information in a region may become its weakness after some period.

**ii. Rigid specialization**

Grabher, 1993<sup>12</sup> claim that old industrial regions may fall into the so-called ‘trap of rigid specialization. Old industrial regions may also become locked into rigid trajectories because their techno-industrial legacy of the past (regarding resources, competences and socio-institutional structures) has eroded or weakened their learning capability.

**iii. Closed market structure**

This reason for the decline found when a group of economic activities with a closed market structure, probably a cartel or monopoly, dominates a region. In that case, entry barriers to the market can slow the region’s dynamism. The tendency of markets to become oligopolistic and vertically integrated further reduces the opportunities for new firms to benefit from agglomeration<sup>1</sup>.

## **5- Industrial Decaying In Egypt**

Egyptian main economic sectors shaped by agriculture, industries, and services, As the first share with 11.3% industry 35.8% and services 52.9% (2016 est.) in the national GDP. The sectors of industries and services classified as urban economic sectors established within the urban areas to benefit from the agglomeration and localization economies. Egypt depends a lot to accelerate the growth in those two sectors to improve the national economic performance, and from here we need urgently to correct the performance of the growth centres through remedy decaying if found.

Since 2011 Egypt face some economic problems because the unstable economic situation and leak of planning and hard working to provide better economic atmosphere. Started from 2015 the economic situation doing to develop as the GDP recorded 4.2% (2015 est) and 3.8% (2016 est) although the hard economic situation but the economic sectors doing well.

### **5-1 Growth centres selection**

According to the latest census, the number of GCs in Egypt reached 249. The number of GCs on which the study of indicators of growth or decaying are 60 GCs and this number covers RGCs

"Governorates capitals" in addition to the growth centers that represent economic bases at the regional level. Besides, promising growth centers have been included.

### **5-2 Spatial analysis technique**

First of all the Analyzes were performed using the software IBM SPSS Statistics 25.

As a result of the nature of the study, which includes indicators were collected at different time periods ranging from 10 years started from 1976 through 1986, 1996 to 2016. This led to some difficulties as coming:

**1- The difficulty to infer some indicators in a period without others:** To find out the accuracy and correctness of the analysis, this data has been replaced by a valid statistical method through "Replace Missing Values" tool in the SPSS.

**2- The existence of different values of one indicator for one GC and the existence of many negative values:** Some types of analyzes cannot deal with these negative values and do not produce correct results. "Natural Logarithm" was calculated for these indicators, the incident over the years, whether positive or negative for each GC.

In order to ensure a proper measurement of the GC's growth or decay, and to arrive at accurate results aimed at reaching real conclusions, the value was reversed by multiplying it by -1 since the negative indicator indicates a decrease or decline in it and vice versa.

**3- There is a difference in the reference of the values of each other:** It affects many results and cannot be conducted on the analysis of these values and in this form, the calculation of the "standardized scores" for all indicators collected by the researcher and for natural logarithm resulting from the above analysis. The researcher calculates the standard Z value, which follows the normal distribution.

### **5-3 The industrial Growth/ Decay**

The main variables used to measure Industrial growth or decay, which include variables that measure the following, see table 1:

- **Employment Growth Rate:** Growth rates of industrial employment between 1976-1986, 1986-1996, 1996-2006 and 2006-2016 to extent growth or decline in growth rates of Industrial employment.
- **Structural change in the comparative advantage of the Industrial sector:** Changing the relative importance of industrial employment structure, especially measuring the extent of the decline or the increase in the percentage of industrial employment to the total employment. This done for periods of 1976-1986, 1986-1996, 1996-2006 and 2006-2016 respectively.

- **Total Industrial investment (billion pound):** The percentage of industrial investments that indicate the ability of the industrial sector in the growth center to continue in attracting industrial investments.
- **The value of total industrial production:** Where the total value of industrial output reflects the extent to which the industrial sector is a leading, growing, secondary or decaying sector.
- **Total industrial investment costs:** Which reflects the ability of the industrial sector to create new jobs through the index of total investment cost.

Table No. 1: "Industrial growth/ decaying Indicators and statistical output"

GCs	Investments	value of total industrial production	total industrial investment costs	growth rate	growth rate	growth rate	growth rate	employment	Change in employment 76-86	Change in employment 86-96	Change in employment 96-06	Change in employment 76-86	LN Change in employment	Score: Total investment	Score: value of total production	Score: total investment costs	Score: LN employment growth rate	Score: LN Change in employment	Zscores mean
giza	2.10	17528393	8974377	3.21	4.05	-2.48	-1.21	-3.14	-1.49	0.14	-5.26	-2.43	-0.25	-0.15	0.66	0.39	-1.32	-0.38	-0.16
6 october	3.61	29783716	10186683	3.12	34.61	9.65	8.21	1.79	-0.77	-5.50	-13.67	-8.76	-2.92	0.37	1.38	0.49	0.85	-1.80	0.26
Banha	2.08	3454387	1686418	0.44	5.87	1.24	1.19	0.52	-1.76	2.16	-0.34	-0.54	0.31	-0.15	-0.18	-0.25	0.29	-0.08	-0.08
Qaha	0.98	2330935	1138119	2.00	1.55	0.01	-0.75	-2.03	-0.18	-3.62	-2.47	-2.11	-0.48	-0.53	-0.25	-0.29	-0.83	-0.50	-0.48
Elobour	1.32	32862744	16720772	3.12	14.87	75.62	15.47	3.34	-0.77	1.67	12.42	7.59	1.59	-0.41	1.57	1.06	1.53	0.60	0.87
Shobra_	8.66	7549474	2186982	2.05	3.10	-0.90	-1.04	-2.36	-13.4	-0.31	-6.43	-2.43	8.29	2.09	0.06	-0.20	-0.98	4.17	1.03
new elarab	6.40	7987655	3522314	3.12	9.61	14.49	4.03	0.40	-0.77	1.41	-16.24	-5.23	-1.31	1.32	0.09	-0.09	0.24	-0.95	0.12
alex city	13.6	19855810	6791122	0.29	1.67	-1.64	-0.68	-0.85	-10.9	-1.72	-5.75	-2.48	4.08	3.77	0.79	0.20	-0.31	1.92	1.27
Damahour	1.23	1184446	1975902	2.53	10.31	-1.71	-0.53	-2.09	0.74	4.17	-2.86	-0.78	-0.35	-0.44	-0.32	-0.22	-0.86	-0.43	-0.45
K_Eldawar	3.14	570276	609372	5.19	2.81	1.62	1.41	-1.76	7.30	0.91	-1.04	-1.21	-1.65	0.21	-0.35	-0.34	-0.71	-1.13	-0.47
GNobareya	1.01	718759	573657	3.12	9.61	32.91	7.29	1.53	-0.77	1.41	6.90	1.23	0.46	-0.52	-0.34	-0.34	0.74	0.00	-0.09
Badr	1.72	184482	752210	0.90	6.49	-0.57	-0.65	-1.26	-2.09	3.60	-6.08	-1.32	0.20	-0.28	-0.38	-0.33	-0.49	-0.14	-0.32
Matrouh	7.01	59330	444461	3.12	6.43	10.19	2.34	-0.38	-0.77	0.81	0.59	0.31	0.25	1.52	-0.38	-0.35	-0.11	-0.11	0.11
Eldabaa	7.01	11134	12345	3.12	18.55	-6.22	1.14	-1.08	-0.77	0.74	-0.52	0.29	0.25	1.52	-0.39	-0.39	-0.41	-0.11	0.04
Elalamein	7.01	9872.00	17892	3.12	-14.52	-14.87	2.89	-0.11	-0.77	-11.3	-1.17	4.51	1.09	1.52	-0.39	-0.39	0.01	0.33	0.22
elshekh	0.71	113499	29970	0.39	4.78	-1.96	-1.04	-1.30	1.28	1.48	-2.24	-1.17	-0.56	-0.62	-0.38	-0.39	-0.51	-0.55	-0.49
Dosouk	0.37	189721	61824	1.51	0.10	6.07	1.08	-0.27	0.59	-1.39	2.82	1.75	0.25	-0.74	-0.38	-0.39	-0.06	-0.12	-0.33
Elmansour	3.13	849623	402134	0.10	3.88	-1.41	-0.93	-0.95	-2.06	0.90	-2.52	-1.49	0.15	0.20	-0.34	-0.36	-0.36	-0.17	-0.20
Damietta	0.81	469954	476965	3.15	2.19	2.10	1.87	-0.65	8.33	-0.77	3.58	0.71	-1.36	-0.59	-0.36	-0.35	-0.23	-0.97	-0.50
N_demieta	0.72	2685862	1403976	3.12	72.10	16.21	12.44	2.78	-0.77	11.90	-0.32	1.43	0.50	-0.62	-0.23	-0.27	1.29	0.02	0.04
Tanta	5.05	1827546	1461593	0.90	3.04	0.33	0.44	-0.33	-1.85	0.93	-1.81	-0.42	0.36	0.86	-0.28	-0.27	-0.08	-0.06	0.03
Elmahala	4.20	3710269	2426901	-0.56	2.50	1.20	1.47	1.53	-6.37	-0.33	-1.12	-0.86	1.73	0.57	-0.17	-0.18	0.74	0.67	0.33
Kf_Elziyat	1.98	1940339	1362343	4.53	-0.60	-1.96	-1.84	-4.53	2.49	-1.33	-5.07	-2.14	-1.06	-0.19	-0.27	-0.27	-1.94	-0.81	-0.70
Sh elkom	0.12	487948	429925	1.52	4.11	0.10	-0.39	-1.40	-0.22	-0.60	-1.29	-1.34	-0.27	-0.82	-0.36	-0.36	-0.56	-0.39	-0.50
Elsadat	0.52	12856188	9466542	3.12	44.81	9.44	6.67	1.34	-0.77	23.58	2.76	2.41	0.70	-0.68	0.38	0.43	0.65	0.12	0.18
Elzaqazeeq	1.20	2087835	489287	1.14	4.92	2.56	2.32	0.68	0.72	2.13	1.60	1.54	0.18	-0.45	-0.26	-0.35	0.36	-0.15	-0.17

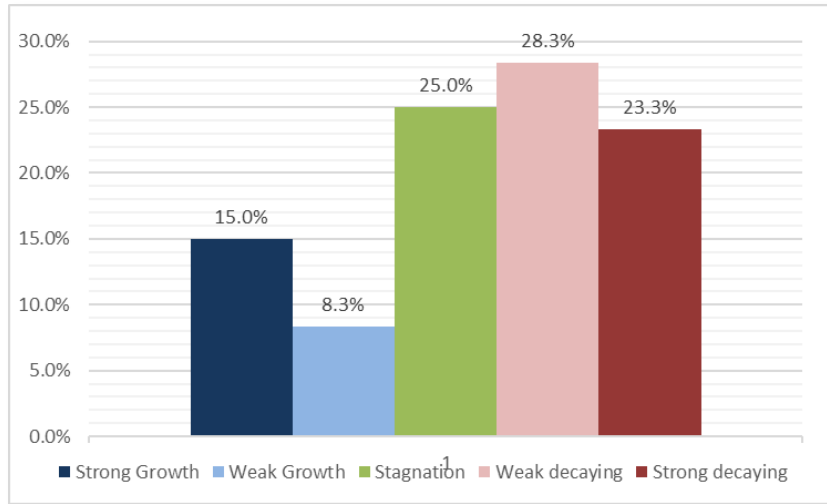
Elasher	3.09	99463246	57752208	3.12	23.39	8.00	6.93	1.42	-0.77	19.56	-7.16	2.49	0.71	0.19	5.53	4.63	0.69	0.13	2.23
Elsalheya	0.98	7384321	3994567	3.12	73.63	9.39	4.47	0.58	-0.77	9.72	1.52	0.34	0.26	-0.53	0.05	-0.05	0.32	-0.11	-0.06
Esmailya	1.42	514209	212187	6.34	6.35	3.91	3.88	-0.90	1.81	2.54	2.20	2.80	0.20	-0.38	-0.36	-0.37	-0.34	-0.14	-0.32
Areesh	2.68	190896	1216851	3.12	11.83	0.74	0.42	-1.58	-0.77	2.26	-1.09	0.18	0.22	0.05	-0.38	-0.29	-0.63	-0.13	-0.27
Beer_Elabd	0.89	76775	24158	17.46	14.28	10.59	8.71	-1.74	0.50	1.01	1.10	1.01	0.11	-0.56	-0.38	-0.39	-0.71	-0.19	-0.45
Eltoor	0.24	980566	432121	3.12	4.70	4.59	3.82	0.31	-0.77	-0.78	-1.13	-1.48	-0.18	-0.78	-0.33	-0.36	0.20	-0.34	-0.32
Sharm	0.66	121113	65780	3.12	26.81	16.62	11.57	2.60	-0.77	0.51	-0.61	-1.05	-0.07	-0.64	-0.38	-0.39	1.21	-0.28	-0.10
Elfayoom	0.89	211344	57518	0.03	3.82	1.58	1.34	0.93	-1.68	0.95	-0.84	-1.02	0.17	-0.56	-0.37	-0.39	0.47	-0.16	-0.20
Soweif	2.96	412343	157786	0.66	4.94	-0.75	-1.02	-1.47	-1.22	1.20	-2.95	-1.89	-0.17	0.15	-0.36	-0.38	-0.59	-0.34	-0.30
N_bsoweif	1.08	907888	457504	3.12	9.61	53.37	25.43	4.72	-0.77	1.41	-2.44	3.58	0.92	-0.49	-0.33	-0.35	2.14	0.24	0.24
Elmenya	2.12	614342	323565	-0.22	2.99	1.93	1.67	1.34	-1.61	0.24	-0.64	-0.78	0.21	-0.14	-0.35	-0.36	0.65	-0.14	-0.07
N_menya	0.98	798242	343577	3.12	9.61	51.09	25.43	4.72	-0.77	1.41	4.00	9.88	1.92	-0.53	-0.34	-0.36	2.14	0.77	0.34
Assiut	4.17	2544678	1710692	3.12	7.61	-0.72	-1.02	-2.88	-0.77	4.00	-2.67	-1.27	-0.12	0.56	-0.24	-0.24	-1.21	-0.31	-0.29
N_Asyout	1.02	212110	176890	3.12	9.61	5.23	51.80	6.85	-0.77	1.41	-2.31	42.98	4.78	-0.51	-0.37	-0.38	3.08	2.30	0.82
Elkharga	4.23	25.40	14.50	8.70	15.15	-6.93	1.24	-2.94	1.92	7.98	-8.08	-1.04	-0.66	0.58	-0.39	-0.39	-1.23	-0.60	-0.41
Eldakhla	1.98	17.10	9.00	5.98	7.68	1.03	0.89	-2.36	0.53	0.69	-1.00	-1.23	-0.42	-0.19	-0.39	-0.39	-0.98	-0.47	-0.48
Elfarafra	0.87	7.90	5.60	17.46	5.24	0.39	4.55	-3.06	1.10	1.68	-1.96	0.87	-0.05	-0.57	-0.39	-0.39	-1.29	-0.27	-0.58
Sohag	0.54	2119852	1608571	3.12	4.20	6.25	1.94	-0.60	-0.77	1.09	4.92	2.33	0.68	-0.68	-0.26	-0.25	-0.20	0.12	-0.26
N_Souhag	0.12	11.90	9.50	3.12	9.61	5.23	45.66	6.46	-0.77	1.41	-2.31	9.82	1.91	-0.82	-0.39	-0.39	2.91	0.77	0.42
Qena	1.43	1118137	1021160	-0.11	4.13	-3.03	-1.19	-1.07	-0.98	1.63	-4.31	-1.43	-0.11	-0.37	-0.32	-0.30	-0.41	-0.31	-0.34
N Hamady	0.78	5032996	40701224	3.82	0.62	-1.31	0.97	-1.50	4.14	0.04	-4.09	-3.87	-1.88	-0.60	-0.09	3.15	-0.60	-1.25	0.12
Ddeshna	0.50	246928	358116	2.15	1.31	-4.06	1.68	-0.26	1.11	1.35	-3.41	-0.72	-0.42	-0.69	-0.37	-0.36	-0.05	-0.47	-0.39
Luxor	0.41	507112	355406	-0.49	8.58	-0.67	-0.09	0.36	-0.80	2.16	-1.45	-1.87	-0.27	-0.72	-0.36	-0.36	0.22	-0.39	-0.32
Teiba	0.03	10.50	6.40	3.12	9.61	5.23	1.42	-0.90	-0.77	1.41	-2.31	-0.08	0.16	-0.85	-0.39	-0.39	-0.34	-0.16	-0.43
Aswan	0.65	1712556	1185442	1.73	7.59	-3.79	-1.12	-2.27	0.06	4.00	-4.62	-1.54	-0.39	-0.64	-0.29	-0.29	-0.94	-0.45	-0.52
Toshka	0.65	22.10	17.50	3.12	9.61	5.23	2.76	-0.17	-0.77	1.41	0.41	2.50	0.71	-0.64	-0.39	-0.39	-0.01	0.13	-0.26
Hurgada	3.60	505212	331106	10.21	8.66	12.02	3.48	-2.13	0.92	-2.31	0.38	0.71	-0.05	0.36	-0.36	-0.36	-0.88	-0.27	-0.30
Ras_Ghare	1.02	12376	9876	2.72	2.08	-6.42	1.14	-0.89	-10.7	-7.44	-20.02	-3.28	3.67	-0.51	-0.39	-0.39	-0.33	1.71	0.02
Elqosier	0.98	11078	8976	-0.22	-2.54	-15.85	-0.19	0.03	-13.0	-6.06	-33.04	-0.52	7.55	-0.53	-0.39	-0.39	0.07	3.77	0.51
portsaid	1.70	1622406	2535549	2.85	3.75	1.46	1.78	-0.56	3.35	-3.62	4.95	4.62	0.23	-0.28	-0.29	-0.17	-0.19	-0.12	-0.21
elsuez city	8.42	49161831	42030637	5.89	3.61	1.52	1.42	-1.99	2.06	0.42	0.26	0.13	-0.41	2.00	2.54	3.26	-0.82	-0.47	1.30
cairo city	13.1	61642821	39866968	-3.04	4.25	-1.69	-1.34	3.31	3.38	-3.41	-3.72	-3.34	-1.57	3.60	3.28	3.08	1.52	-1.08	2.08



## RESULTS and DISCUSSION

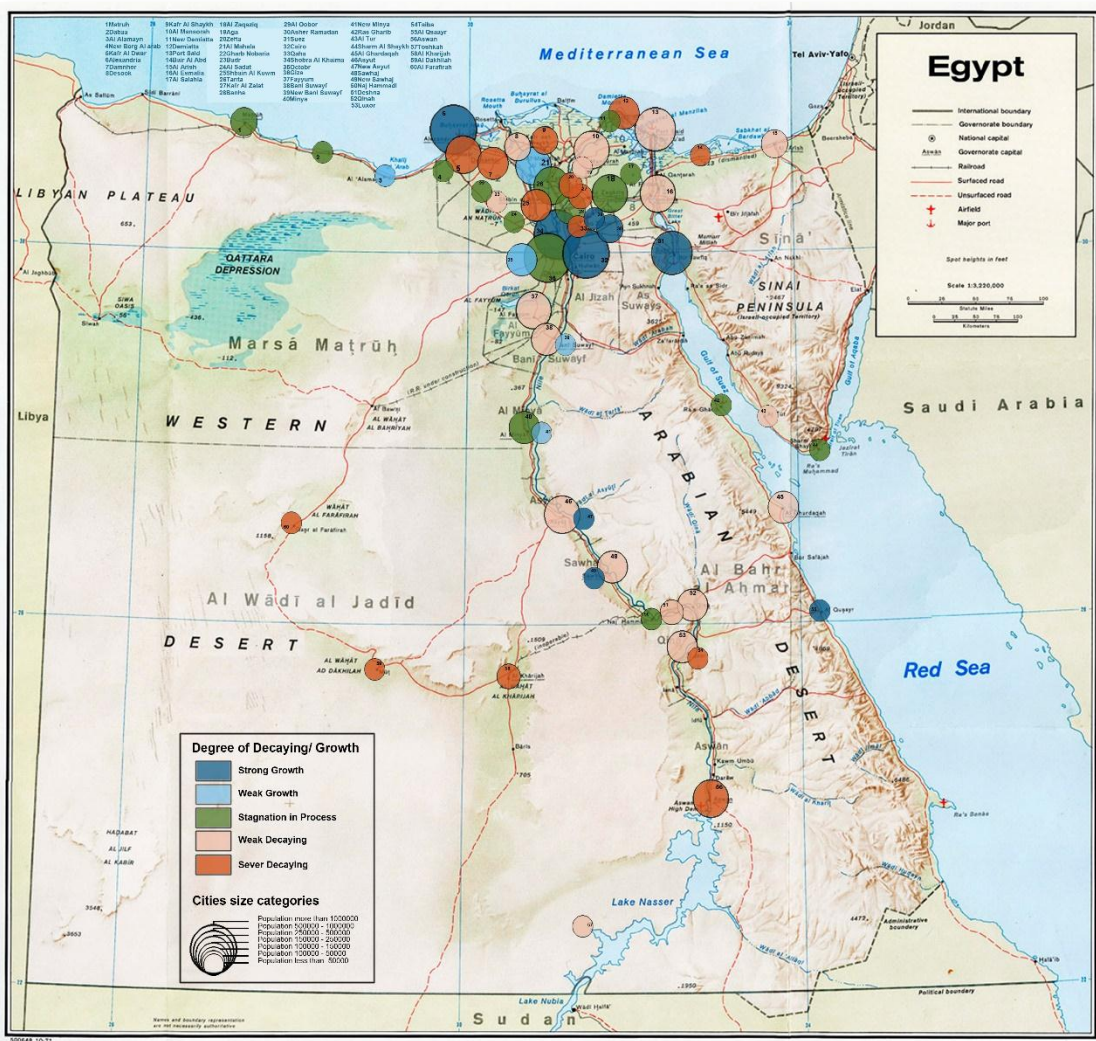
Figure (1) shows the analysis of the values of the index of Industrial growth or decay, and we can infer the following:

**Fig No. 1: "the analysis of the values of the index of industrial growth or decay" Source: Author**



- 1- The number of industrial growth centres, whether strong growth or weak growth (14 centres by 23.3% of the total) and is a relatively similar to agricultural growth centres "16", although Egypt is classified as an agricultural state in the first rank.
- 2- The number of centers with industrial decay, whether strong or weak 31 growth centers represent 51.6% of the total studied growth centers.
- 3- The number of growth centers in the industrial recession reached 15 with 25% of the total.
- 4- Most of the industrial growth are located in mega centres like Cairo, Alexandria and Shobra El-Khaima, besides the major cities such as El-Mahala El-Kubra, Suez. In addition to a large number of new cities, Octobr, Asher ramadan, and Oobor).
- 5- It is also clear that most of the centers with growth and industrial leadership are concentrated in northern Egypt - where there is no industrial growth centers in southern Egypt, only the cities of New Minya New Asyut and New Swhaj. It is noted that most of the industrial growth centres in Upper Egypt suffer from industrial stagnation and decaying such as the cities of Naj Hammadi, Dshna, Aswan, Sawhaj, and Asyut.
- 6- Although the importance of the Suez Canal corridor as a future industrial corridor in the development at the national level but most of centers in the Suez Canal region represent a case of industrial decaying except suez centre.
- 7- Most of the growth centers in the border and desert governorates suffer from stagnation and industrial decaying, except for the Al Alamaen and Al Qsaayr.

Fig No. 2: "the spatial diffusion of the industrial growth/ decaying in the growth centres" Source: Author



## Industrial activation policies

### Create ‘technology districts’ and ‘increasing learning process.’

The most of decaying GCs, especially in the old industrial region, suffer from the lack of learning and innovation. ‘Path dependency and collective learning’ have been applied to grasp the reduced ability of old industrial regions to learn and innovate.

Spatial proximity might stimulate a process of collective learning, which leads to a comparative advantage that is hard to copy and difficult to transfer to other regions. This is achieved through the intra-regional mobility of human capital as the carrier of knowledge, the transfer and feedback of information via local networks, and reinforced by the techno-industrial specialization in the area. Morgan views policies based on the learning region concept as the new generation of regional policy. One of the main advantages of such policy might be that it is based on a bottom-up strategy attuned to the resources of the regions<sup>1</sup>.

### **Incorporation of innovation to open new markets and resources**

The decaying GCs suffer from a closing market structure, its physical structure is unattractive, and the recent resources are becoming less adequate to establish new investments. Incorporate of innovation in the industrial sector help to open new markets and discover new resources by using innovation. Boschma & Lambooy, 1999<sup>1</sup> argued that innovation is the main source of economic growth. Innovation leads to new variety: new technologies and firms. Two possible situations can be distinguished. According to Schumpeter, innovation is not only a matter of technology. He also mentioned organization and strategic action to find new markets or new resources.

### **Pumping new industries**

One of the useful policies is pumping new industries with a new competitive advantage, which help to open a new market and start a new economic cycle. The new industries provide opportunities for each type of centres, including old industrial centres. To put it differently, new industries confront centres with problems of adjustment, regardless of their industrial past<sup>13</sup>. That is, new industries have to rely on their ability to generate their conditions of growth (such as investment capital, technology, qualified labor) because of the same reasons put forward by the evolutionary theory<sup>1</sup>.

### **Promote cluster of firms**

The idea is that clusters evolve, through the combination of inter-firm rivalry and collaboration, innovation and the rapid transmission and adoption of ideas, and the generation of important local externalities, such as a skilled labor pool, the availability of specialized inputs – physical, technical and legal and enhanced access to information.

The practical importance of clusters, as a source of higher productivity or a response to the regional decline, continues to divide opinion<sup>14</sup>.

Industrial clusters have become a key feature of industrial policy in many developing countries. In addition, while the record of accomplishment on a global basis may have been mixed, clustering has, in a significant number of countries, lent substantial momentum to the national drive towards greater international competitiveness and improved business performance<sup>15</sup>.

### **Increasing the level of specialization**

A city or region could become locked in particular sectors or lines of activity, bringing the risk of decline<sup>14</sup>. Some hope for the future development of GCs lies in increasing specialization, which leads to high levels of productivity and competitiveness, in turn, this moves the cycle of production and start a new level of growth. Establish firms' service centers that will be supported by fewer but better research centres to work on increasing specialization within the recent and new firms<sup>16</sup>.

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## **Industrial corridors**

The industrial corridors provide the integration advantages between the supplementary industries within the corridors, which give impetus to the decaying growth centres.

The new modern industrial corridors preferably to linking the smart cities to create a strong economic base with a globally competitive environment and state-of-the-art infrastructure to activate local commerce enhance foreign investments and attain sustainable development<sup>17</sup>.

This type of corridors are mostly transportation axes with target to link specialized cities (industrial centres) to complement each other to enhance regional specialization or increase the concentration of activity in the industrial centres, these axes become an urban hub for specialized activities focused on production services.

Activities on the corridors benefit from labor mobility between major urban centers, so when the dominant centres of the axis are more urbanized in the characteristics of the population, more success is expected.

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