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Abstracts

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ENVIRONMENTAL POLLUTION

(A) Chemical Pollution

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ESTIMATION OF LEAD AND CADMIUM LEVELS IN MILK
FROM SOHAG GOVERNORATE

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ABSTRACT:

Environmental pollution with heavy metals cause adverse effects to is a physical hazard that threatens the lives of thousands of human beings. Entering of heavy metals into human body is via the consumption of animal products. Although heavy metal concentrations in milk are relatively low, they can be used as an indicator of environmental contamination. Ninety milk samples were collected pasteurized and raw taken from different cities at Sohag governorate (Sohag, Tema and Gerga) to estimate the levels of lead and cadmium. The samples collected from March to Septamper 2017. Lead and cadmium levels in the samples were measured by Atomic absorption spectrophotometer. The results (ppm) were as follows:

Lead (ppm): In Sohag city, Pb level in raw milk was from zero to 2.38 (0.919±0.225) as the highest level was from farms as 1.680±0.241 and the lowest one was from markets 0.166±0.105. In Tema city, Pb level in raw milk was zero-3.535 (1.457±0.284) as the highest level was from farmers 2.110±0.503 and the lowest one was from markets as 0.450±0.191. In Gerga city, Pb level in raw milk was zero-2.45 (0.726±0.189) as the highest level was recorded from farms 1.110±0.528 the lowest one was obtained from markets 0.376±0.142. Lead level in analyzed raw milk samples was zero-3.535 (1.034±0.142) as the highest level was found in Tema (1.457±0.284) and the lowest level was detected in Gerga (0.726±0.189). For pasteurized milk samples, Pb level at Sohag governorate was zero-1.40 (0.592±0.120). The estimated daily intake for Pb from raw cow's milk was 3.45 µg/kg

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for adult person consumes 200 ml milk per day. For pasteurized milk the estimated daily intake for Pb was 1.97 $\mu\text{g}/\text{kg}$ for adult person consumes 200 ml milk per day.

Cadmium (ppm): In Sohag city, Cd level in raw milk was 0.278-1.334 (0.777 ± 0.056), while the highest level was recorded in samples from farmers 0.888 ± 0.082 and the lowest one was from farms 0.659 ± 0.091 . In Tema city, Cd concentration in raw milk was 0.424-6.318 (1.010 ± 0.226), while the highest level was from farms 1.287 ± 0.562 and the lowest one was from farmers 0.079 ± 0.763 . In Gerga city, Cd concentration in raw milk was 0.4235-12.548 (1.010 ± 0.226) while the highest level was from farmers 2.771 ± 1.363 and the lowest one was from farms 0.655 ± 0.077 . In Sohag Governorate, Cd level in raw milk was 0.278-12.548 (1.104 ± 0.205) while the highest level was from Gerga 1.524 ± 0.569 and the lowest level was from Sohag 0.777 ± 0.056 . For pasteurized milk samples, Cd concentration at Sohag governorate was zero-1.188 (0.482 ± 0.108). The estimated daily intake for Cd from raw cow's milk was 3.68 $\mu\text{g}/\text{kg}$, while for pasteurized milk was 1.61 $\mu\text{g}/\text{kg}$. This study revealed that all raw milk samples taken from farms at Sohag governorate were over the permissible limits of the Egyptian Standard (2001) while Pb levels were high in some samples. These high levels of both Pb and Cd can represent health hazard for peoples that continues consume this milk. So, we can recommend that milk processing units should be under strict observation. Farmers and milkmen should be educated regarding the safety of animal feed, its impact on the quality of milk and the ways to safely handle milk and milking animals. Animal feed and drinking water in dairy farms are needed to be strictly monitored to control the level of toxic chemicals in milk and its products.

EVALUATION OF ALUMINUM CONTENT IN MILK FROM SOHAG GOVERNORATE

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SUMMARY:

Environmental pollution with heavy metals is a physical hazard that threatens the lives of thousands of human beings. So the main aim of this result is estimation the concentration of aluminum in cow's milk at Sohag Governorate and estimation of daily intake for the adult person. In this study, ninety milk samples from pasteurized milk and raw cow's milk were taken from different cities from Sohag governorate (Sohag, Tema and Gerga) to estimate the level aluminum. Aluminum concentration was measured by using the ICP (Inductively coupled plasma Emission Spectrometer, iCAP 6200). The results revealed that the concentration (ppm) of aluminum in Sohag city in raw milk was 61.688-101.71 (81.808±4.201). The highest level was 87.495±7.634 in farm milk and the lowest one was from markets (76.273±8.250). In Tema city, Al concentration in raw milk was 45.640-100.398 (68.396±5.150). The highest level was from farmers as 82.398±1.490 and the lowest one was from farms. In Gerga city, Al content in raw milk was 8.855-116.9 (67.244±9.525). The highest level from farmers was 88.371±10.598, and the lowest one was from markets as 33.294±13.470. In Sohag Governorate, Al concentration in raw milk samples was 8.855-116.90 where the

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highest level was from Sohag city as 81.808 ± 4.201 and the lowest level was from Gerga city 67.244 ± 9.525 . Al concentration in analyzed pasteurized milk samples was 13.09-96.057 (66.784 ± 6.237) where the highest level was from Gerga as 77.848 ± 9.075 and the lowest level was from Tema 50.256 ± 12.953 . Estimated daily intake for Al from raw cow's milk was 0.241 mg/kg for adult person from consumption of 200 ml milk per day. For pasteurized milk samples the estimated daily intake for Al was 0.222 mg/kg for adult person from consumption of 200 ml milk per day. In conclusion: According to the source of milk, highest level of Al was recorded in raw milk samples taken from farmers while lowest one was recorded in samples taken from markets.

MULTI-RESIDUAL LEVELS OF SOME PERSISTENT ORGANIC POLLUTANTS IN RAW MEAT

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ABSTRACT:

The POPs residues that remain in the tissues of animals and enter to the food chain considered as a public health threaten to human and animal health. Therefore, a market- basket survey was carried out with the aim of simultaneously determination of the levels of some organic pollutants (POPs) residues. Analysis including some OCs pesticides and some polychlorinated congeners in local meat consumed in Assiut city. The study investigated a total of 63 raw meat samples were randomly collected from meat markets in Assiut city. The average pollutants residue concentrations \pm SE were calculated in local meat (n=21 pooled samples with three samples each). Samples were collected along the year from January to December 2013 from units available in retail stores in Assiut city. The meat samples were subjected to multi-residues determination of some POPs residues in by GPC and PSA solid phase extraction cleanup. It was followed by gas chromatography-mass spectrometry GC/MS determination and analysis. The residues of different compounds were compared with MRLs of different international regulations but basically with the EU MRLs as a basic choice of comparison for the following reasons: first, the European Commission fixes MRLs for the vast majority of chemical residues in meat. Second, EU has the

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lowest MRLs among the other regulation and sometimes there is a gap between MRLs of EU and other regulations. The results of the that study revealed that The OCs detection includes aldrin, p,p'-DDE, lindane, heptachlor epoxide, dieldrin and methoxychlor. The mean values of these pesticides were 1.69 ± 0.91 , 1.00 ± 0.79 , 14.26 ± 7.47 , 30.22 ± 10.39 , 5.78 ± 3.80 and 0.39 ± 0.33 $\mu\text{g}/\text{Kg}$, respectively. Each of aldrin, and p,p'-DDE was detected in 43% of examined samples while lindane and heptachlor-epoxide were detected in most of samples in about 83% whereas the dieldrin and methoxychlor were detected in 33% of samples. The only congener of PCBs detected in local meat was hexachlorobiphenyl (PCB 138) with a mean value 4.90 ± 3.10 $\mu\text{g}/\text{kg}$. Its frequency distribution was 33% of samples. The results of all samples recorded that the concentrations of the POPs were generally low and did not exceed the MRL of different regulations even EU. Our obtained results revealed that the POPs in local meat in samples have a reasonably safe situation. If present it is low and not significant.

Keywords: *POPs; organochlorine pesticide; polychlorinated biphenyles; residues; local meat.*

ESTIMATION OF NITRATE CONCENTRATION IN
WATER SUPPLY OF DAIRY FARM, RAW MILK
AND WHITE SOFT CHEESE SOLD IN ASSIUT
GOVERNORATE, EGYPT

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ABSTRACT

A total of 90 random samples of water, raw milk and white soft cheese (30 of each) were collected from dairy farms for water, raw milk and street vendors for white soft cheese house made in same region (village) near Assiut city, Egypt where waste water is used for irrigation and animal drinking during the period From October 2018 to September, 2019. All examined water samples (30 samples) in a percentage 100% were +ve for nitrate while there were only 18 samples from 30 examined raw milk samples in a percentage 60% and 26 samples from 30 examined white soft cheese samples in a percentage 86.67% were +ve for nitrate. The incidence of nitrate content in water, raw milk, and white soft cheese samples (mg/L, kg) were ranged from 50, zero and 38 to 210, 186 and 190 with a mean range 153 ± 0.0037 , 107 ± 0.0058 and 86 ± 0.0016 respectively. The high frequency distribution of nitrate content in water, raw milk, and white soft cheese samples (mg/L, kg) were 11 (36.67%), 7 (38.88%) and 9 (34.62%) ranged from 100-150 respectively. The relationship between International Permissible limits, mean results, High frequency distribution of our study and the healthy importance of nitrate residues in water, raw milk and milk products and methods of control were discussed.

Key word : *nitrate, raw milk, white soft cheese, Assiut, Egypt*

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IMPACTS OF COPPER AND ZINC METAL OXIDE
NANOPARTICLES ON SOME PHYSIOLOGICAL
INDICES OF QUINOA
(CHENOPODIUM QUINOA) PLANTS

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(Poster)

ABSTRACT:

Plant nanotoxicology is an emerging and less-explored area of research for the plant stress biologists. This study elucidates the effects of the toxicity of CuO and ZnO nanoparticles (NPs) on Quinoa (*Chenopodium quinoa*) Plants. These two nanoparticle metal oxides are selected because they are widely used in both consumer products and agricultural formulations. Two successive levels of stress (50 and 100 mg L⁻¹) suspensions of CuO and ZnONP were imposed and plant growth performance was studied along control at 30 days of experiment. Plant growth was severely inhibited particularly under 100mg L⁻¹ of both CuO and ZnO (NPs). Modulation of enzymatic antioxidants (CAT and APX) activities and non-enzymatic antioxidants (total phenolics and total flavonoids) contents in addition to metal chelating % under both CuO and ZnO stresses were investigated in detail to get an overview of their-stress response of Quinoa plants.

Keywords: *Nanotoxicology, ZnO, CuO, phenolics, CAT, APX, metal chelating %.*

SPIRULINA MITIGATE THE TOXICITY INDUCED BY COPPER SULFATE AND COPPER OXIDE NANOPARTICLES IN EARLY JUVENILE OF TILAPIA (OREOCHROMIS NILOTICUS)

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ABSTRACT:

Copper oxide nanoparticles have been increasingly used in consumer products. So, this study aimed to study the toxicological effects of copper sulphate and copper oxide nanoparticles on *Oreochromis niloticus* as well as the protective role of *Spirulina platensis*. Fish were divided into five groups: the first group was the control (pre-fed basal diet), the second group was pre-fed on basal diet and exposed to (15 mg /L copper sulfate), the third group was pre-fed on diet containing 0.25% SP and exposed to (15 mg /L copper sulfate), the fourth group was pre-fed on basal diet and exposed to (15 mg /L copper oxide nanoparticles) and the fifth group was pre-fed on diet containing 0.25% SP and exposed to (15 mg /L copper oxide nanoparticles) for 15 days. The results showed that both copper sulphate and copper oxide nanoparticles caused significant increase of total protein, glucose, ALT and uric acid compared to control group. Copper

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sulphate only caused significant increase of AST, while copper oxide nanoparticles only caused significant increase of creatinine compared to control group. The levels of TAC significantly decrease after exposure to copper sulphate and copper oxide nanoparticles. Copper sulphate only caused significant increase in the activities of superoxide dismutase (SOD) and catalase (CAT) while copper oxide nanoparticles only caused significant decrease of (CAT) compared to control group. The histopathological changes of brain, liver, intestine and kidney were correlated with the biochemical and antioxidants outcomes. Spirulina normalized the altered serum levels of glucose, AST, ALT, uric acid, creatinine and antioxidants parameters as well as the histological changes near to control levels. Accordingly, Spirulina supplementation could overcome the toxicity of copper sulphate and CuO nanoparticles by abolishing oxidative stress.

Keywords: Copper oxide nanoparticles, *Oreochromis niloticus*, *Spirulina platensis*, oxidative damage, histopathology.

ENVIRONMENTAL POLLUTION

(B) Biological Pollution

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SOME BIOLOGICAL ACTIVITY OF ESSENTIAL OIL OF *SENECIO GLAUCUS* L.

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(Poster)

ABSTRACT:

The antimicrobial, anti-inflammatory, antioxidant and cytotoxic activities of the extracted essential oil (EO) of aerial parts of *Senecio glaucus* L. were determined. The main chemical constituents of the EO are m-mentha-1(7),8-diene (26.41%), cis-m-mentha-2,8-diene (10.30%), dehydrofukinone (19.46%), α -fenchene (4.77%), 1,3,8-p-menthatriene (4.48%) and α -terpinolene (3.18%). More than half of the oil was monoterpenes, followed by sesquiterpenes. The EO differentially exerted antimicrobial effects on Gram-positive and Gram-negative bacteria, yeasts and molds. The oil revealed anti-inflammation effect after 4 hrs. of carrageenan injection in comparison with endomethacin. The EO showed strong antioxidant effect and the IC50 value for scavenging DPPH radical was 1.56 μ l/ ml compared to 16 μ g/ ml for ascorbic acid. Also, the aerial parts were potent against human breast cancer cells.

Keywords: *anti-inflammation, antimicrobial, antioxidant, Allelopathy, essential oil, Senecio glaucus*

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CLIMATIC CHANGES

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A GEOGRAPHICAL ANALYSIS OF ENVIRONMENTAL CHANGES IN AL-KOTAMEYA RESERVOIRS AREA (MENOUFIA GOVERNORATE)

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** PhD in Human Geography

ABSTRACT:

The Kotameya reservoirs represent one of the ancient sectors of El-Bahr El-Pharony, which extends within the limits of two administrative centers-southeast of Menoufia Governorate- These reservoirs represented the ancient outlet of the stream and formed parts of Ox-Bow Lakes lakes.

A significant changes has occurred in the morphology of the Kotameya reservoirs as a result of backfilling and drying operations during different periods of time. despite this, the reservoirs have been operating as a drainage of water in excess of the need of agricultural lands in this sector that is not served by major drains.

During the last quarter of the century (1993-2018) the area of the three reservoirs decreased by more than half (51.4%), especially the southern reservoir, where it lost about two-thirds of its area (67.1%), which represents 62.6% of the total area lost in all reservoirs. The frequency of this decrease increased after the

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January 25, 2011 revolution, as a result of the state of insecurity during this period.

The reservoirs also witnessed a major change in the characteristics of the water quality, in addition to the conversion of some of its sectors to fish farms, and almost complete cessation of free fishing activity.

The research sheds light on the morphological changes that Kotameya reservoirs witnessed, especially during the last quarter century, and the encroachments on the reservoirs since 2011, in addition to analyzes the characteristics of water quality and the levels of pollution therein, and ends with providing some planning proposals to improve the environmental condition of reservoirs and maximize their economic and development returns.

BIOLOGICAL DIVERSITY

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**SEDIMENTOLOGICAL STUDIES OF MANGROVE
ENVIRONMENT AT HAMATA –WADI EL-GEMAL
PROTECTED AREA, RED SEA COAST, EGYPT**

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(Poster)

ABSTRACT:

Mangroves in Egypt cover a relatively small area, but they have a national and international importance. Mangroves along the Egyptian Red Sea coast are built up exclusively of *Avicennia marina*. Its growth from bushy, its density is generally in sparse groups, and its occurrence is restricted to small coastal areas. The present work aims to study the nature and environment of the mangrove sediments in Hamata (Qulan area) and Wadi El-Gemal area along the Egyptian Red Sea coast through dealing with the grain size analysis data of mangrove sediments. The grain size analysis of mangrove deposits is important to give a good idea of the size distribution and properties of these sediments in the considered areas. Forty-six samples were collected from the sediments of mangrove environments in these areas. The textural characteristics of mangrove sediments in Hamata (Qulan area) were investigated and compared with similar characteristics of mangrove sediments in Wadi El-Gemal region. The mean size generally decreases towards the sea and the sediment type changes from coarse

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sand to muddy sand and sandy mud. The sorting is generally warse, with varying degrees of skewness from strongly coarse to fine skewed distribution with averaging nearly symmetrical skewed of Qulan area and coarse skewed of Wadi El-Gemal area. Kurtosis values range from leptokurtic to very platykurtic with averaging mesokurtic of Qulan area and leptokurtic of Wadi El-Gemal area. The areal distribution of sand, mud and gravel fractions showed that sand constitutes up to 80-90% of the studied sediments. Statistical analysis of the sediments shows the prevalence of a moderately high-energy environment with very effective winnowing activity. The discriminant functions of Sahu (1964) for environmental interpretation has been used and it showed that all sediment samples of the two areas of study follow shallow marine environment. Cluster analysis and correlation matrix of sediments showed illustrated the complexity of the system and the multitude of contributing sources.

Keywords: *Texture, marine sediments, mangrove environment, Red Sea, Egypt.*

POPULATION COMMUNITIES
AND GEOGRAPHIC AND
ENVIRONMENTAL
INFORMATION SYSTEMS

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SPATIAL DISPARITIES IN THE MAP OF BUILDING HEIGHTS IN THE NASR CITY NEIGHBORHOOD AND ITS POSSIBLE IMPLICATIONS

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ABSTRACT

The research aimed at evaluating the heights of residential buildings in Nasr City between the reality and the plan, and comparing the reality with the legal levels determined by the width of the street, as stipulated in the executive regulations of Law No. 119 of 2009 to organize construction work, and to find out its negative repercussions on the residential environment, such as ventilation and natural lighting.

The total number of Nasr City buildings is approximately twenty-six thousand, while the total number of floors is approximately 122 thousand floors (121,746 floors). Therefore, the average number of floors of a building reaches five floors.

- The relationship between the total number of buildings in each class of height appears to be inverse, and their numbers decrease with each floor until they reach the lowest on the last floor, which is the twenty-second.

- It is noted that the low-rise buildings are concentrated in the far east and the far west, and are relatively high in the central vertical belt from north to south.

As for the medium-rise buildings, they are concentrated in the northwest and in the eastern, northeastern, and southern sectors.

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- The high buildings ranging between ten and fifteen floors are concentrated in the heart of the Nasr City district.

- Also notes spatial correlations of building types according to site heights, residential divisions, and the street network; Low buildings are linked to informal areas that were built on the margins of the planned area in the far west and east, and within and in the middle of residential divisions, and taller buildings are also linked to the main road axes separating residential divisions and squares, and the forefront of the tallest buildings appear in the northern sector of Abbas al-Akkad Street and its proximity to the Autostrad Street.

The average width of the road in Nasr City is six meters, but the legal heights reach the level of the fourth floor, and then the buildings on the next floors from the fifth to the twenty-second are considered negative loads over the capacity of the pyramid of the buildings of Nasr City.

*It seems that the plans, laws and regulations have failed to cope with the increasing desire for the elevations of residential buildings in Nasr City, and have been reflected in the spread of violations of vertical risers and their spread with the help of the corruption of the local sector and the administration of residential neighborhoods, so it issued additional laws to reduce them because of their negative impact on the residential environment.

On the other hand, the state opened the door to reconciliation with previous vertical elevation violations based on its keenness to alleviate the suffering of residents of residential units in the opposite floors to obtain drinking water, electricity and gas facilities. This appears to be a contradiction in the state's approaches between restricting heights and reconciling with buildings in violation, which requires reconsideration of the general plan of Nasr City.

DEVELOPMENT OF AN EARLY WARNING SYSTEM FOR MAPPING FLASH FLOODS USING THE INTEGRATED AHP- GIS AND SATELLITE IMAGE PROCESSING TECHNIQUES IN RAS-GHARIB, EGYPT

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ABSTRACT:

Egypt is one of the vulnerable Arabian countries to flash floods induced by heavy and intensive rainfall. Egypt was hit by a series of historical flash flood events that lead to mortality, damages, and economic losses. The intensity and frequency of flash floods in Egypt vary from year to year according to several hydrological and climatological variables. This study integrates the physical and social parameters to assess the vulnerability of Ras Gharib city to flash floods. The objectives of this study were to shed light on the flash floods in the study area and develop a vulnerability model to assess the vulnerable regions for the flash floods impacts to avoid the loss of life and property. The results revealed that Ras Gharib is one of the Egyptian cities prone to flash floods impacts. The findings of this study are expected to be useful to policymakers and responsible authorities for better disaster risk management to cope with the flash flood events in the future.

Keywords: Ras Gharib; Flash flood; early warning system; hazard; vulnerability; AHP; GIS; satellite images.

LEVELS OF MIGRATION SATISFACTION AND CHALLENGES OF ADAPTATION

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ABSTRACT:

Migration is a social process that has a clear implication on more than one level; their effects on the society to which immigrants move and the other from which they migrate, in addition to its effects on the immigrants themselves and their families. Such effects are predominantly negative having consequences in changing the size of the population in both referring and receiving areas. In such areas, migrants are exposed to a number of problems; economic, residential, social...etc. These problems can result in a return to cities or a sort of adaptation to the new community.

The research studies the situation of migrant families from urban areas towards rural areas adjacent to cities, in a spatial scale defined by cities of the Egyptian Delta and its adjacent rural margins. The study was conducted on 224 migrant families whose last stay was in one of the cities of the Egyptian Delta governorates. The field study was applied in 2018.

The research examines the problems of migrants from urban to rural areas; economic, social and residential problems. It also investigates the impact of such problems on the migrants' decision to return to the cities. Therefore, it became necessary to study the levels of migration satisfaction. This, in turn, shows the correlation between the problems of migrants and the encouragement of rural migration in general.

The study concludes the following results:

- **The economic problems came at the top of the list of the most important problems facing any immigrant family. The percentage of the economic problems has been higher than the general average of cities in four cities; Benha, Mansoura, Damanhour and Tanta, in varying proportions that hit the ranking (80.0, 65.0, 62.5, and 58.5%) of the total immigrant households in each city. The number of iterations and rates of social problems has also declined if compared to the economic problems recording 48.2%**
- **Lack of services came as a major problem among immigrant families in all cities; it emerged as the biggest housing problem in terms of frequency; six cities represented three quarters of the cities under study.**
- **By studying the levels of migration satisfaction, none of the migrants in the cities of Benha, Shebin al-Kom, Tanta, and Kafr el-Sheikh showed any sort of dissatisfaction. However, the highest percentages of dissatisfaction rates happened in the cities of Zagazig and Mansoura. This also matches the rise in the number of people who have expressed a desire to return to the cities.**
- **67% of immigrants have the intention to call a relative or friend to live in the countryside, which corresponds to the satisfaction levels rating 70%.**
- **The study demonstrates a statistically significant inverse correlation between migration problems experienced by migrants and their encouragement of other relatives, friends and co-workers to migrate from urban areas to its adjacent countryside. Pearson correlation coefficient was (-111 *) at the significance level (0.000), which means that the more problems these migrants face, the less they are encouraged to migrate to the countryside.**

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THE ROLE OF URBAN PLANNING IN DEVELOPING THE
RIVERFRONTS OF KHARTOUM STATE
AN EMPIRICAL STUDY ON THE OLD CITY OF MDURMAN

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ABSTRACT:

Urban planning turned the river plan developmental in development of the fronts indeed the river"applied study on city of old Omdurman"for state Khartoum relationship between the fronts and the overlooking cities on her history favor about relationship imposed her the defensive strategy and the wish importance of the rivers as source for the nutriment and the drinking and the transfer and the ventilation beside what his assimilation the local importance for the cities formed her was wmaazaalt the natural resource the rivers inside essential to indicated and development of the societies developmental The old regional urbanized for city-searching to the acquaintance on the river fronts intra and specification of uses the opposite land have fun and mother of drums aims evaluation extended me her correspondence llxrTt the developmental directed for where shaper lack of development for the fronts river in stateKhartoumthe d optimal use appeared to the adjacent lands for the river fronts hit the relative to of laws the plan reconciled for and the ambidextrous growth developmental ronmental reality and the economies and the meetingswhich be reversed the envi of which the urbanized looted on and touristic and the ventilations to the areas hit interest in the environment and the optimal distribution for the developmental area at general'river fronts for universe idealizes fDaa overlooking on that her requires valuable self and historic importance and civilized

CALCULATING THE SANDY AREAS INSIDE
AGRICULTURAL LANDS USING GIS IN MEROW
LOCALITY IN NORTHERN SUDAN

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ABSTRACT:

The study is entitled "Calculating the Sandy Areas Inside Agricultural Lands Using GIS in Merowe locality in northern Sudan. The main aim of this study is to recognize the sandy areas that have been deposited over the agricultural lands, where the encroachment of sand from the arid desert of "Atmour" towards the agricultural lands around the Nile in Meroe locality. The importance of the study stems from the importance of agricultural activity in this locality and the severity of sand encroachment on it and covering large areas of agricultural land with clear sand. The study used the descriptive, analytical method GIS and remote sensing programs in calculating the sandy areas inside agricultural lands from Land Sat satellite images for the years 1972, 1987, 2001 and 2013. By using remote sensing technology, satellite images were analyzed. The study also used some statistical tools to illustrate the development of sand encroachment and predict the areas covered by sand from agricultural lands in the future. One of the most important results of this study is that the sand creped in large quantities towards the agricultural land. One of the most important recommendations of this study is to protect agricultural lands from being covered by sand by mechanical or biological methods through windbreaks and raising environmental awareness among farmers of the importance of reducing sand encroachment on agricultural land.

POPULATION DISTRIBUTION AND ITS PATTERNS IN
GEZIRA STATE OF, SUDAN DURING THE PERIOD
(2000-2019)

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ABSTRACT:

The study aimed to know the geographical factors of population distribution and its patterns in the Gezira State in Sudan during the period (2000-2019). The study used the descriptive and analytical method. Population distribution and concentration were measured by Lawrence's curve and concentration index. The study reached a number of results, the most important of which are: The most important natural factors that played a prominent role in the population distribution in the state of the Gezira are surface manifestations, climate, soil, and water resources that had the greatest impact on population distribution in the state. Also, the administrative factor and economic factors especially agricultural activity, has a role in the distribution of the population in the state's localities,. As for the industry, it worked on concentrating the population in the greater Medani locality where the state's capital is located and many factories are available. The state is also connected to a transportation network which in turn has contributed to the movement and distribution of the population throughout the state, this worked on developing the state and linking production areas to consumption areas, the percentage of population concentration in the state reached 12.24 for the year

2000, and increased to 25.38 by the year 2019, due to the lack of balance between the area and the population This is exemplified in the eastern locality of the Gezira, where about 12.95% of the population is concentrated in an area of 30.62%. In addition to that, the locality of Greater Wad Medani, we find 11.36% of the population concentrated in an area of 2.71, there are multiple patterns of population distribution in the state of the Gezira, including the concentration pattern represented by the locality of Greater Wad Medani, diffuse pattern Represented by the localities (Al Kamleen, Al Hasahisah, Al Managil, South of the Gezira), the dispersed or (scattered) pattern represented by the two localities (East of the Gezira and Umm Al Qura). Based on this results, the study recommended the following: distributing the various service institutions in the state and not concentrating them in localities and regions without the other, in order to redistribute the population among the localities of the state, and developing the rural areas economically, socially, culturally and healthily, in order to a achieve balanced development throughout the state.

Key words: *patterns, population distribution, Gezira state, balanced development, Sudan.*

EVALUATING THE EXPERIENCES OF NEW CITIES ACCORDING TO THE INDICATORS OF SUSTAINABLE URBAN DEVELOPMENTS

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Abstract

Many countries experienced the establishment and developing new cities, but with a different concept and aim for each country. Although these experiences differ, these main aims were to attract residents, achieve sustainable urban development, provide job opportunities, and hence to achieve their self-sufficiency by utilizing the available resources. Therefore, the research aims to analyze and evaluate three previous experiences: France in Western Europe (global), the Kingdom of Saudi Arabia in Asia (regional), and in Egypt, the Tenth of Ramadan city (local). Those experiences succeeded in the process of sustainable urban development in the new cities based on the indicators of sustainable urban development: (Transport, health, education, housing, population, agriculture, land, location and its determinants, administration and administrative structure, financing, and method of development). Through theoretical review of failure reasons of many new cities in Egypt, we found that they are almost due to failure in not achieving the majority of these indicators. Therefore, the experiences of the three countries, in developing new cities were analyzed to determine the extent of their success and to extract the

main applied indicators of their sustainable urban development, which contributed to such success, To approach that, the research Firstly analyzed a model of a new city in each experience identifying its general location, its determinants, access to the new city, its function and how to develop it. Secondly: Extracted the most important indicators of sustainable urban development, which contributed to its success. Thirdly: Analyzed two local experiences (New Minya, New Beni Suef) which failed in achieving their desired success. Finally, it concluded the most important results and recommendations that were extracted.

Key words: *Urban development, Sustainable development, Indicators of sustainable urban development, Experiences of new cities.*

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Desertification and land reclamation

Assiut University Center for Environmental Studies-Egypt

DESERTIFICATION RESEARCHES IN SUDAN: CURRENT STATUS, GAP AND FUTURE CHALLENGES

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ABSTRACT:

Land degradation in arid, semi-arid and dry sub-humid regions as a result of climatic variations and human activities considered as one of the most severe environmental and socioeconomic problems of recent times. The paper aimed in contributing raise awareness, show the current status, future challenges and emphasized on researches that will be doing through national strategies starting with determination the top priorities of research. The total area affected by drought and desertification processes constituting about 99.8% of the total area of Sudan, all these areas are fragile ecosystem and highly susceptible to all land desertification

processes and deterioration will be continuous unless a serious measured carried out to mitigate their impacts. This work explores that there is a lack in studies and researches of land degradation oriented to essential branches such as, sand encroaching into the Nile, economic impact of land degradation, winds data analysis, losses of nutrients and organic matter particularly that caused by wind erosion and determination the carrying capacity of rangelands.

Unfortunately till now there is no attention was given to environmental impact assessment studies in Sudan especially that related to land degradation beside studies focusing on consequent of climatic changes. In scientific research institutes there is a lack in co-ordination between them leads to redundant or duplicate research and finally dissipated efforts and time.

Key words: *land degradation, desertification processes, sand encroachment, economic impact, carrying capacity and Suda*

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Waste Recycles Management

Assiut University Center for Environmental Studies-Egypt

BIODIESEL PRODUCTION FROM STRESSED CHLAMYDOMONAS REINHARDTII CULTURES TREATED WITH THIAMIN

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ABSTRACT

The interaction effects between CoCl₂, salinity and vitamin B1 (thiamin) on biodiesel production from *Chlamydomonas reinhardtii* cultures were followed for 7 days. Biodiesel contents of the *C. reinhardtii* were significantly increased under various concentrations (3, 6 and 9 ppm) of CoCl₂ and 25, 50 and 75 mM of NaCl. However, under a relatively higher concentration (12 ppm) of CoCl₂ and 100 mM of NaCl was significantly decreased. On the other side, the biodiesel contents of the *Chlamydomonas reinhardtii* were significantly increased, when the algal cultures subjected to the highest concentrations (12 ppm) of CoCl₂, (100 mM) NaCl and treated with 200 ppm of thiamin .

Key words: *Chlamydomonas reinhardtii*, biodiesel production, thiamin and salinity.

**AN ANALYTICAL STUDY OF THE QUANTITATIVE
ASSESSMENT OF CONSTRUCTION WASTE DURING
THE IMPLEMENTATION PHASE**

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ABSTRACT:

Construction and demolition waste is not new in all parts of the world and has started to thrive with an increase in population and thus an increase in their housing needs. As time progressed, and as a result of the rapid urbanization and construction boom that occurred almost all over the world during the 1990s, the amount of building and demolition waste buried by traditional methods began to increase to uncontrollable levels.

The growth in construction activities over the past two decades has also resulted in a corresponding increase in the amount of construction waste generated. This growth, coupled with a shortage of landfill space especially in urban areas, has proven to be a strong strain on the environment. Thus construction waste management has become a problem that is attracting increased attention worldwide. In this text, the quantitative estimation of the generated waste from the various stages of construction is the first step for managing construction waste.

Quantification is important for successful management of construction and demolition waste, as it is an important means of assessing the possibility of reducing waste. Thus, a better understanding of the generation of construction and demolition

waste can be achieved in terms of causes and sources, and also an accurate estimate can be found by developing a model for estimating the amount of waste and demolition at the country or project level. This research paper provides a review of the models for the quantification of construction waste from previous studies and how they relate. Most studies combine experimental data to assess the waste or waste generation factor obtained in the field and the level of activity extracted from the national statistical database that provides annual data on sectoral activities. National or regional estimates provide general figures and forecasts for annual building and demolition waste generation. Therefore, recording quantitative data from the results of the waste review can benefit the authorities in the annual estimates. This research focuses on the work of a study to quantify the amount of waste during the project implementation stages through extrapolation of previous studies and field studies and follow the descriptive analytical approach. The research concludes with many results and recommendations that contribute to how to estimate the amount of waste and reuse from it and work to reduce the amount of waste in future projects.

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MANAGEMENT OF WATER RESOURCES

Assiut University Center for Environmental Studies-Egypt

BIOELECTROCHEMICAL DEGRADATION OF AMMONIA IN DRINKING INTAKE WATER RESOURCES

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ABSTRACT:

For drinking water production, the time required for decontamination of intakes water is limiting factor. Bioelectrochemical treatment of agricultural and aquacultural wastewaters that discharged in water resources can solve the pollution problems. In this paper, the proposed bioelectrochemical system (BES) for total ammonia nitrogen (TAN) degradation was constructed from an electrochemical (EC) unit and a biological reactor. For EC with graphite electrodes system, the removals% of ammonia were achieved with time factor but the system has significant remove with increasing concentrations. In addition, the traditional EC processes with real water found that ammonia cannot be effectively degraded using direct oxidation under abiotic conditions. The obtained results revealed that increase in concentrations and treatment time improves removal performance of the BES. The incubation with fixed biofilm for two hours prior to EC processes would degrade and lead to the best removal of low concentration ammonium content in raw water. During one hour, the overall system removal efficiencies for NH₃-N concentrations were 42.8%, 41.7% and 34.1% for spiked samples with 1 mg/l, and real raw waters, respectively.

Key words: *Ammonia; intake water; Bioreactor; electrochemical system; removal efficiency.*

ANALYSIS OF THE PROTRACTED WATER CRISIS IN THE GAZA STRIP AND ITS POSSIBLE SOLUTIONS

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ABSTRACT:

Gaza Strip is one of the scarcest water resources areas in the MENA region. The coastal aquifer is the only water resource in the Gaza Strip, and it suffers from rising deficit in the water budget because of continuous increase in water demand for different uses which has been leading to fall in the quality and quantity of groundwater. The problem includes inefficiency of infrastructure facilities, and water distribution networks that facing deterioration, illegal connections and leakage (UfW).

The total water supply for domestic use in the Gaza Strip is about 96.308 mcm: 78.791 mcm from 273 municipal water wells; 2.911 mcm from nine UNRWA wells; 10.566 mcm from Mekorot1; and 4.039 mcm from desalination plants (brackish and sea water). Total domestic water consumption is 61.508 mcm/y. Daily average per capita water consumption is 88.7 l/c/d, Daily average per capita from the total water production is 133.3 l/c/d. The network distribution efficiency of 62.3% as a mean value. Distribution system efficiency varies from governorate to another, where the highest was in Khan Younis governorate is 71%. Based on that, the per capita consumption in the Gaza governorates was ranging between 103 l/c/d in the Northern governorate and 80 l/c/d in Rafah governorate. The maximum per capita water production was recorded in the Northern governorate of 171 l/c/d and the lowest was 106 l/c/d in Rafah governorate. (PWA, 2018)

Water Balance in the Gaza Strip is according to inflow and outflow quantities. Inflow quantities are based on the only water resource (ground

aquifer) including rainfall discharge, lateral inflow, and return flow. While outflow include: domestic, agricultural and industrial abstraction. The net deficit in 2016 is about 110 MCM and predicted to reach 180 MCM by 2035 (PWA, 2017). In addition to that, more than 97% of the water pumped is far from WHO standards (PWA, 2018). Where chloride concentration reached 4,500 mg/l and water level is 14m below sea level in some areas of Gaza Strip. Water distribution networks covers more than 97% of Gaza population with pumping rate 120 l/c/day, but due to leakage and illegal connections, the rate dropped down to 55 l/c/day.

Wastewater networks covers about 84% of population. But due to low water per capita rate, the produced wastewater has high concentrations of salinity, nitrate, and heavy metals, which require more effective treatment methods to achieve successful reuse (PWA, 2018). For wastewater treatment facilities, Gaza Strip produced about 81.2 MCM of wastewater in 2015, which is treated partially. Only 10 MCM of treated wastewater is discharged to the ground aquifer, 61 MCM is pumped to the sea, and the rest is leaking through percolation pits without any treatment (PWA, 2017). Gaza Strip also suffers from the absence of effective storm-water collection system, where most storm water runs off in the streets, and a few drains exist in the lower areas. However, there are five infiltration basins located in different area.

This paper aims at analysing the protracted water situation in Gaza Strip and suggests technical, legal and managerial solutions taking into considerations the current conditions including electricity shortages and its impact on marine environment and water sanitation in the Gaza Strip.

LAWS AND REGULATIONS AND THEIR ROLE IN IMPROVING THE LEVEL OF SUSTAINABILITY OF WATER RESOURCES IN URBAN PROJECTS

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Bolley - Al-Marqab University (1)
Department of Architecture and Urban Planning - College of Engineering -
University of Tripoli (2)

ABSTRACT:

Urban sustainability is a concept that most countries of the world are racing to apply because of its positive effects on the environmental, economic and social aspects. With the growing concept of sustainability in buildings and the attendant environmental advantages, the quality assessment of any project has become dependent on the extent to which the sustainability requirements are met. There is no doubt that the buildings and construction sector contributes significantly to the depletion of fresh water resources, and its role in improving the efficiency of water use cannot be neglected when looking to achieve sustainable water resources to reach green buildings. Therefore, this research paper will address the role of laws, policies, regulations, standards, standards and incentive material incentives, and the desired role in activating and improving the level of sustainability of water resources.

It also aims to identify the level of performance of the systems and legislation variables that contribute to improving water sustainability, as well as

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identifying difficulties facing improving the level of inclusion of water resources sustainability in buildings. The paper followed the tripartite research methodology, as it mainly depends on gathering information from previous studies, through which the factors and variables of the study were identified, and then the field study phase followed by preparing an exploratory questionnaire. The final stage is the final questionnaire, and information has also been collected through personal interviews. The results showed that the overall rate of water efficiency when designing buildings in Libya was (1.78), i.e. a very weak level. The research paper concluded that the rate of use of sustainability standards for water resources in buildings in Libya is weak, therefore the improvement in the level of sustainability of water resources in designing urban projects is closely related to the improvement of the effectiveness of the variables of the systems and legislation factor.

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Assiut & New Valley Company For Water & Waste Water
Affiliated Company To Holding Company For Water & Waste Water



WATER AND ENVIRONMENT

Eng.Mohamed SALAH El-Din

Chairman and Manger Director For Assiut &New Vally

For Water and wast Water

ABSTRACT;

The presentation includes the following :

- 1- The strategic framework of the company.**
- 2- A brief summary of the establishment of the company.**
- 3- The company's scope of work.**
- 4- The current state of drinking water and wastewater services.**
- 5- The projects that implemented by the company and the shareholders.**
- 6- The company's investment plans.**
- 7- Challenges and initiatives of the company.**
- 8- Procedures to raise drinking water quality.**
- 9- Provided services and methods of communication.**
- 10- The company's procedures to confronting (COVID-19) pandemic.**

CONVENTIONAL, NEW AND RENEWABLE ENERGY

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EFFECT OF DEPOSITION TIME ON THE
STRUCTURE, DIRECT AND INDIRECT ENERGY GAP
OF NANOPARTICLES CDO THIN FILMS PREPARED
BY CHEMICAL BATH DEPOSITION METHOD FOR
SOLAR CELLS APPLICATION

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ABSTRACT:

In this research nanoparticles cadmium oxide CdO thin films has been prepare using chemical bath deposition (CBD) technique at room temperature .CdO thin films has been deposited on glass substrate using cadmium chloride (CdCl₂) as Cd⁺² ions source and sodium hydroxide NaOH as O⁻² ions source. The pH value (acidity level) of the chemical bath was fixed at about 11. The effect of the deposition time on the structure, direct and indirect energy gap were studied. Structural properties were studied by X-ray diffraction. It reveals all thin films are polycrystalline in nature with cubic structure having a preferential orientation along (1 1 1) plane. The crystalline size (D), dislocation density (δ),

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strain (ϵ) and texture coefficient $TC(hkl)$ were calculated. Particle size for the preferential orientation is calculated between (19.1 -35.5 nm). It is found that the grain size increases with increasing deposition time. The study of the optical properties of CdO thin films were studied using UV-Vis spectrophotometer, shows blue shift in absorption peaks. Energy gap values (direct transition and indirect) calculated from the absorption spectrum located between (3.026 -3.409 eV) for direct transition and (2.197-2.917 eV) for indirect transition and this indicates that all CdO thin films prepared nanoparticles. We found that the energy gap decreased with increasing deposition time. . This feature makes the prepared CdO thin films have special affinity for the employed in electronic devices such as solar cells.

Keywords: *CdO thin film, chemical bath deposition method, Nanostructured, energy band gap.*

**GENERATING ELECTRIC POWER USING SOLAR
ENERGY IN LIGHT OF THE APPLICATIONS AND
CHALLENGES IN THE KINGDOM OF SAUDI ARABIA,
A REFERENCE STUDY.**

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Professor of Nuclear Physics at Qassim University - Kingdom of Saudi Arabia

ABSTRACT:

Solar energy has become part of the economic diversification plans announced by the Kingdom of Saudi Arabia to achieve balance in the process of exploiting its resources. To meet the requirements of life and achieve economic development, the Kingdom of Saudi Arabia has preceded others in its vision and direction to find alternative energy sources. The sun was considered a tremendous source of energy, and its importance lies in the fact that it is a tremendous energy that can be exploited anywhere, and it is a free source of inexhaustible fuel, as it is considered clean energy when used in many fields. They must be studied and utilized, especially since the traditional sources of energy are subject to depletion, and to contribute to achieving the goals of the Kingdom's Vision 2030 in diversifying the economy to transform the Kingdom from an advanced oil exporting country to a sustainable energy exporting country. The Kingdom has set among its priorities, investment in the field of solar energy to produce electric energy, work to reduce gas emissions, and interest in developing renewable energy sources, the most important of which is solar energy, and by the grace of God to his servants that the Kingdom of Saudi Arabia enjoys a large flood of solar radiation within the Arab world.

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Where the intensity of solar radiation in the Arab region reaches 1000 watt / square meter at midday, with an average of 250 to 300 watt / square meter per day, which is equivalent to 6 kilowatt hours/square meter per day; and the photovoltaic power units falling into the kingdom reach about 2,200 kilowatts per square meter per year. The government has proposed many initiatives in order to benefit from this, including: The National Initiative for Water and Electricity Production Using Solar Energy under the auspices of the King Abdulaziz City for Science and Technology; and the solar electric production project of the King Abdullah University of Science and Technology; the solar village project, and others. In order to benefit from solar energy in the Kingdom, we face some challenges. So the government provided material and moral support and activated the research movement in the fields of solar energy, and scientific exchange with countries. To clarify the above, the importance of this research came in which we present the role of solar energy in sustainable development, its importance and components, and how to benefit from it as clean energy. The author presented how to benefit from it in light of generating electricity from photovoltaics and presented the advantages of using solar cells as a source of energy, and then concluded this research by presenting developments in solar energy technologies and applications in order to achieve what the Kingdom called for in support and realization of Vision 2030.

THE REALITY OF RENEWABLE ENERGY IN IRAQ WITH
THE UTILIZATION OF EXPERIENCES OF ARAB GULF
COUNTRIES

***Khlood M. Omran & **Dr Maryam K. Khalaf**

***the University of Basra, Electric Engineering college**

****the university of Basra, Arab Gulf and Basra studies Centre**

ABSTRACT

The oil countries work, in order to achieve a comprehensive sustainable development, to not rely on oil as an only source of energy. They support the tendency globally in generating a part of the electrical energy which the countries need, by using the resources of clean and renewable energy. Renewable energy is energy that is collected from natural resources, which are naturally replenished on a human timescale and it usually doesn't cause any carbon dioxide gas or harm gases and it doesn't increase the global warming when the fossil fuels are burning. Investments in the renewable energy increased worldwide in recent years in spite of the obstacles. Today, worldwide countries plan to invest largely and they set the necessary policies to develop and encourage the investments of renewable energy. Iraq is one of the countries which endeavor to invest this energy. It begins to invest in this sector but in a simple degree. After Iraq is largely becoming an electrical consuming country, Iraq's need for different alternative energies increased, that is because of urban growth and the increasing of population follow it .This leads to a and additional demand of electrical energy. The research aims to spotlight the orientations of Arab Gulf countries to meet the request of electrical energy by using the clean energies, the serious pursuit of these countries to vary resources of production of electrical energy, the improvement of its productive efficiency and the ability of advantage of this experiment in Iraq.

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INFORMATION
TECHNOLOGY AND
FOURTH-GENERATION
WARS

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FOURTH GENERATION WARS AND THE DESIRE TO CONTROL MINDS

Dr.. Shima Abdel Razek Ahmed

Official implementation of electronic libraries in the General Authority

Central lecturer in the central region of Upper Egypt

ABSTRACT

The wars of the fourth generation are considered the most dangerous types of wars, as they cancel borders completely and target state institutions and end dealing with the army as a fighting bloc but terrorist formations of individuals or small groups have been provided with super power, and the formation of groups linked to external interests and directives, not the homeland, where it is inconceivable that the work will be done Terrorism that is ravaging several countries, with funding, armament and planning, without the support of regional and international powers, and take from terrorist organizations an entry point to achieve hegemony over specific countries such as the Muslim Brotherhood or al-Qaeda or ISIS or Khurasan, and others, as each generation represents a qualitative shift in the methods of waging war and a clear shift in the art of managing it, meaning that any military or security forces fight by the methods and means of a generation Previously, you cannot defeat a force that uses the art of war with the methods of a new generation and the interconnectedness of generations or strategies for wars, whether it is the wars of the fourth generation concerned with the failure of the state, the destruction of its forces, and the fragmentation of its institutions, or the fifth generation concerned with dealing with gang formations and terrorist organizations, or the wars of the sixth generation concerned with everything that is completely controlled and controlled and managing the war remotely, all of which require responsible and

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professional treatment to achieve deterrence in all cases. Given the seriousness of that type of modern wars, the researcher intended to prepare a research On the wars of the fourth generation and the desire for American domination of the world, through which the concept of the fourth generation of wars deals with the characteristics of those types of wars and their mechanisms, the role of awareness and building the human being and his role in addressing wars of the fourth generation

THE LEGAL RESPONSIBILITY OF USING ROBOTIC SYSTEMS IN CONTEMPORARY WARS

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Elmosil University – Iraq

ABSTRACT

There are many types of contemporary wars in this era, and cyber war is one of the most important and most recent, especially in the field of robotic systems, which is a type of modern weapon used in some types of contemporary wars, where robots are controlled through satellites and Internet networks, which makes them vulnerable to interference. Or re-programming by the enemy and even used against its forces, robotic systems are characterized by the possibility of many risks and errors when using them in the battlefields, due to the changing and unexpected battle conditions on the one hand, and the multiplicity of parties to use and draw. In some cases these robots are completely relative to humans, and the difficulty arises in determining the parties to responsibility. International law also includes the multiplicity of entities that can be a party to this responsibility, the robot may be a party to the responsibility if it has the legal personality and reached the stage of human perception, or the manufacturers of the robot may be responsible as the robot is an industrial product, in addition to the programmers, On the other hand, the military commander may assume part of the responsibility as the final decision maker to use force, and at the end of the series comes the operators who take effective control of the robots.

The process of determining the parties to liability in addition to the multiplicity of entities faces the many laws that can govern them, between civil and criminal law and international humanitarian law, or we may need special laws to regulate the use of robotic systems, or we may reach the stage of preventing their use except in a very limited way in Battlefields.

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HOW DO WE EXPLAIN THE USE OF
COMMUNICATION AND INFORMATION
TECHNOLOGY IN FOURTH-GENERATION WARFARE?

Prof. Mahmoud Mohamed Ali

**Professor and Head of the Dept. of Philosophy, Faculty of Arts, Assiut
University**

ABSTRACT:

The Cold War ended in the late 20th century, and with it ended decades of concealment of great scientific accomplishments and technological innovations which were exploited for the sake of science and military affairs and controlled by the leaders of the Western and Eastern Blocs alone. This gave vent to the information and communication revolution in the early 1990s, and the internet began a new civil age that made it easy for all the peoples of the world to communicate and exchange knowledge. As a result, websites, blogs, portals, chat rooms and social networks appeared. To define and compare these websites and shed light on their impact on their users, we present this paper to talk about the uses of communication and information technology in fourth-generation warfare, which is one of the most dangerous and most complicated wars that target states and their societies, as special technologies, extensive training and high public awareness are required to confront its media, as such wars are launched through the media and open sources to reach all members and sectors of society. The peoples of targeted states are instigated to rebel and lose trust in the ruling regimes as a first step to threaten security, create instability and destabilization, and spread what is called "creative chaos."

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Powerful states and actors in the world use media power to intervene in the affairs of other states with the aim of achieving political and economic interests in particular, through different efforts, such as accusing states of being a failure. The international community has to reach a clear legal and agreed upon definition of a failed state in order to define the conditions that make it necessary for this community to interfere in the affairs of this state to redress the balance and bring this state back to its normal condition.

Therefore, in this paper we explore the most important uses of communication and information technology in fourth-generation warfare through using Facebook, static and dynamic websites, e-commerce, blogs, portals, and chat rooms, and how this was done through Gene Sharp's tactics.

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CAREER DECISION MAKING DIFFICULTIES AMONG
WORKING AND NON-WORKING UNIVERSITY
STUDENTS: DOES EMPLOYMENT STATUS MATTER?

Abdulfattah Yaghi & Nizar Alabed

Associate Professor of Public Administration, Public Policy, and Leadership

Coordinator, Master Program of Governance and Public Policy (MGPP)

ABSTRACT

Career decision making difficulties (CDD) refers to a combination of lacking self-readiness and accurate and consistent information to make appropriate career decisions. The purpose of this study is to examine the impact of employment status on the perceptions of CDD among fulltime and part-time students. The Arabic version of the Career Decision Making Difficulties Questionnaire is administered to a convenient sample of 500 college students. Independent Samples Test and Pearson correlations reveal that (a) employment status has no significant effect on the perceptions of CDD, (b) only six out of seventeen demographical variables are significantly correlated with CDD (gender, age, income, college GPA, satisfaction with the current major, and social status), (c) . Three difficulties are located, namely dysfunctional belief about career decision making process, lack of information about self, and inconsistent information about internal and external difficulties. After discussing these findings, recommendations for researchers and practitioners are outlined.

Keywords: *vocation, Arab, HRM, difficulties, career intervention*

ENVIRONMENT AND ITS RELATIONSHIP TO LAW

Assiut University Center for Environmental Studies-Egypt

PROTECTING THE ENVIRONMENT FROM
POLLUTION IN LIGHT OF INTERNATIONAL LAW

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***Assistant Professor at the University of Asmara**

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ABSTRACT

The process of protecting the environment is supported, given that this relates to the continuation of human life on the surface of the earth. Preserving a clean environment means, of course, eliminating pollution in its various patterns, especially oil pollution, and the importance of research lies in dealing with an important topic that concerns the lives of the entire population of the Earth because the environmental impacts do not affect a specific segment But it has impacts on all inhabitants of the globe.

The United Nations Conference on the Environment, which was held in 1972 in the Swedish capital, Stockholm, can be considered the most prominent embodiment of international interest in the issue of the environment.)

The United Nations has established an environmental agency (the United Nations Environment Program), which works to plan and oversee environmental protection activities in various regions of the world. The rules of international environmental law have evolved significantly at the present time, which will be addressed not really.

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ENVIRONMENTAL THREATS IN ALGERIA

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ABSTRACT:

Algeria is the first African country with an area (2,381,741 km²). It is also distinguished by the diversity of terrain in addition to the diversity of biological resources, but it is threatened by climatic conditions, in addition to its misallocation in the region. Also, this geographical area faces other environmental threats such as shrinking forest area, expanding desert area, soil erosion and degradation of rangelands. Given the importance of the environment and the need to preserve it, we will try to determine the characteristics of the environmental situation in Algeria and the threats it suffers from.

Key words: environment, environmental problems, Algeria.

COMBATING ENVIRONMENTAL POLLUTION
(A STUDY IN THE LEGISLATION OF THE UNITED ARAB
EMIRATES)

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ABSTRACT;

The problem of environmental pollution is one of the most important problems that plague most countries of the world, especially in light of the feverish race by those countries to obtain scientific, industrial and technological progress, and information and communication technology, and the consequent adverse effects on the elements of the natural and industrial environment alike. And the belief that a pollution-free environmental environment is impossible to achieve, especially as the elements of the environment are intertwined with soil, water and air. Any pollution of any element that extends easily to the rest of the elements may even go beyond the borders of countries. , And this pollution is reflected Radiation or oil pollution, with potentially harmful effects that extend across States

Therefore, all countries of the world have to find a solution to this difficult equation: balancing the right of countries to obtain scientific and technological progress and benefiting from that development in various industries and activities, and between the basic interest of society and its right to preserve the lives and safety of individuals from environmental pollution.

The lines of this research reflect the legal and practical mechanisms through which the UAE succeeded in combating environmental pollution, taking full advantage of scientific and technological progress and achieving sustainable development.

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ENVIRONMENT AND ITS RELATIONSHIP TO ARTS

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THE IMPACT OF ENVIRONMENTAL DAMAGE ON THE ARCHAEOLOGICAL RESIDENTIAL FOUNDATIONS IN CAIRO -THE HOUSES OF PRINCE RADWAN FOR AN EXAMPLE

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ABSTRACT:

This study deals with the historical ,archaeological and artistic description and comparative analysis The houses of Prince Radwan Khiamia street, Darb Al_ Ahmar district, Cairo impact No.407 as one of the important archaeological historical and heritage buildings among the civilian residential buildings in the heart of the historic city of Cairo , which dates back to the ottoman period with architectural and construction origins from The Bahri Mamluk period, the importance of this monument is due to the fact that it represents one of the residential buildings that were built in the ottoman period and its origins date back to the Mamluk period,in addition to the archaeological study, the research aims to minitor the architectural and artistic decline of these as a result of the environmental factors surrounding the antiquities while providing solutions and treatments for these aspect.

The most important manifestations of deterioration are in the following axes:

- Human encroachments and the nature of the activity that is currently practiced in the vicinity of the impact, from the presence of carpenter workshops and their heavy equipment.

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- There is moisture and salt in the stone foundations on all walls and facades of the three houses.

- There is groundwater below the seat block in the three quotient.

- There is a subsidence in the floor of the seat itself, which is made of marble.

- there is a fall bearing walls in homes that have led to the fall of the upper halls and the stairs ascending to them and to crack the rest of the walls and some of them are now crucified as a result of rain water and not leaking from the gutters designated for them.

- there is a decrease in the original levels of the impact due to the presence of debris that led to the rise of the floors in front of it, the research was provided with a number of figures and plates.

ENVIRONMENT AND ITS RELATIONSHIP TO MEDIA

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THE EFFECT OF MEDIA AND AWARENESS OF
DEVELOPMENT ISSUES 'SOCIAL FIELD
RESEARCH'

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ABSTRACT

The current study aims to identify the influence of the media to form awareness of development issues among the young people, because of the importance of the media in the political and social field on the international and local levels.

The two researchers used the scale as basic tool for the field data collection. this study is one of the descriptive studies approved in its methodology on an analyzing and interpreting which its impact on the descriptive approach through the use of a social survey on a random sample selected from the youth of Assuit Governorate which reached to 500 respondents.

This study extracted many results the most important of it is the internet which enjoys by the confidence of the youth for obtaining information.

It is a tool for enlightenment, dialogue and education, in addition to the television is an active part of society, it has an important role to form youth awareness, it is a convenient way to reach for a lot of people

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ENVIRONMENT AND ITS RELATIONSHIP TO HEALTH AND SOCIETY

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MEDICAL AMBULANCE SERVICE IN MENOUFIA
GOVERNORATE BETWEEN REALITY AND
ASPIRATION USING GEOGRAPHIC INFORMATION
SYSTEM

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ABSTRACT:

Any health system pays much attention to Medical emergency services; especially ambulance services, because of their nature and the minimum time requirements to respond. GIS is one of the tools that helps achieve this; providing the required information when, where and how needed. This is according to the three pillars upon which the health management process depends: Strategy, Tactic and Operation.

In this context, The paper provides a geographical analysis of the reality of the components and rates of operation and efficiency. The future of that service is also investigated in accordance with the standards of service planning in terms of population, size, service vulnerability and access time and space.

The study concludes with a set of results that highlight imbalances in the distribution of service components according to the specified criteria and the factors influencing them, in addition to identifying the main problems facing service delivery from the point of view of those in charge of them. This is a basis of development of a future vision in the light of the current possibility.

The research is Composed of six subjects. The first deals with elements of the medical ambulance service in the Governorate. The second subject lists the service efficiency indicators for medical ambulance. The third subject presents an analysis of the

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distributional imbalances of service efficiency indicators. Subject four handles rates of service operation and activity. The fifth subject discusses accessibility according to distance and time. The study concludes with the sixth subject that presents the way the medical ambulance in the governorate is managed.

BLOOD TYPES, RACES OF MANKIND, AND THEIR
RELATIONSHIP TO DISEASES WITH SPECIAL
REFERENCE TO CORONA VIRUS :
A STUDY IN MEDICAL GEOGRAPHY

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ABSTRACT:

This paper aims to study the relationship between blood types, races of mankind with diseases in general and the epidemic Corona disease in particular. This research is located at the intersection of three disciplines: Geography of Disease with Pathology and Races of Mankind, where some previous studies showed the relationship of a number of Diseases by blood type. Cancers in general tend to be associated with group "A", and slightly less with group "B". The proportions of women with Breast cancer who carry type "A" are higher.

Compared with other types, while blood type "O" shows a slight degree of resistance against Breast cancer and is less in death rates, while the incidence of bladder cancer increases in carriers of the same type O, and infertility is related to known non-functional causes among carriers of the blood type. "A" and "B" are more than that of the O. Studies have shown that regional differences in the patterns of the main blood groups among the population in the countries of the world and their geographical distribution due to the geographical and social environment and genetics result in many chronic and ecological genetic diseases concerned with these types of blood groups

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Scientists are currently working on studying the relationship between Covid19 and blood types, which are observations that can be easily monitored, and any country in the world can know the proportions of the infected and the dead according to their blood type from the statistics of the infected and their blood groups. A preliminary statistical study in China indicates that people with blood type A have more numbers of people with Corona disease, COVID-19, than those with blood type O (Zhao, J. et al., 2020). However, it should be emphasized that this study is early.

It is too early to rely on it to confirm the relationship of the species to the disease, before much clinical trials are conducted, but further investigation of the relationship between the ABO blood group and the susceptibility to the disease should be encouraged.

Keywords : Blood groups – diseases – Races of mankind – Corona – Geography of disease – Medical Geography

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REPRODUCTIVE HEALTH IN ASSIUT GOVERNORATE "FROM A GEOGRAPHICAL PERSPECTIVE"

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ABSTRACT;

Reproductive Health Is An Essential Part Of Public Health As It Reflects The Health Level Of Men And Women Of Reproductive Age And According To The Definition Of The World Health Organization, Reproductive Health Is Defined As Reaching A State Of Complete Physical, Psychological, Mental And Social Integrity In Matters Related To The Functions And Operations Of The Reproductive System And Not Only Free From Disease And Disability "

The Birth Rates, Contraceptive Use, And Fertility Rates In The Governorate Have Been Studied To Determine The Reproductive Behavior In The Governorate. The Study Found The Strong Relationship Between The Educational Level And Reproductive Health Variables That Were Studied

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ENVIRONMENT AND ITS RELATIONSHIP TO TOURISM

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ASSESSMENT OF THE POTENTIALS OF
GEOLOGICAL TOURISM IN AL-FAWAKHER AREA,
EASTERN DESERT, EGYPT

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Ministry of Environment, the Red Sea Branch * - National Institute of

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Flash Tour Tourist Company ***

ABSTRACT

Geological tourism is one of the new markets that display geological heritage sites as areas of tourist attraction, and provides innovative experiences for tourists, which have become more popular in the world during recent years.

. It is considered a new sector and a growing market and promising a prosperous future especially in light of the increasing demand for natural tourism by tourists. Contemporaries , as the tourist has become more searching for the new environment. Therefore, countries that have undiscovered areas enjoy a significant market advantage in global tourism.

Geological sites are an important natural tourism resource with significant economic benefit, and it can become a source of geo-tourism activities that promote local economic development. The quality of the geological site is related to the various values that are attributed to it, as it is not only related to its scientific value, but to its overall value and its links with the environment, economy, and culture.

Al-Fawakher area is one of the distinguished geological sites on Wadi Hammamat road, which is located 90 km west of the city of Quseir, which is one of the oldest trade

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routes in the world. The area is distinguished by its unique geological heritage, as it possesses a number of distinctive geological formations in addition to being the largest gold settlement in the Eastern Desert during the Pharaonic times and the fifth and sixth centuries AD.

In addition to the quarries of Al-Barsha and Al-Jerry and Aki (Pharaonic era - Ptolemaic - Roman), and it has a Roman station, towers and Abarongush. The Wadi Hammamat (Papyrus Turin) map is also considered the first of its kind in the world as a geological map. The preserved monuments are now in the form of complex houses dating back to the Greek and Roman times.

However, those ingredients have not yet been used on the Egyptian tourist map, and the importance of the research comes to shed light on the potential of geological tourism in the region, and aims to discover the different values that geological sites possess in the Fawakhir area. Also, the environmental management plan is necessary to develop geological tourism in the region.

TOURISM DEVELOPMENT AND ITS SOCIAL IMPACT IN SUDAN

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ABSTRACT

Aims of Tourism Development to achieve an integrated system of optimization between all natural elements and items of heritage and civilization with a view to the development of the components of the tourism product in order to attract different levels of tourists, through the introduction of various programmes and plans that aim to achieve tourism development-impact social and economic. Can formulate the problem of the study; the rectifiers provide tremendous in the field of recreation, leisure and tourism in Sudan, but that the level of activity of the tourism and socio-economic impact are still without the level of ambition. The importance of the study; the effects of competing and overlapping socially, economically and environmentally, besides, it's an opportunity to shed light on the state of Sudan lady and its cultural justification even human. As well as its importance as a sector of the economy contributes to the increase of GDP. Reflected the objectives of attracting; in the quest to identify the ingredients and potential natural and human resources and identifying patterns of Tourism available, to provide a realistic vision for tourism and the possibility of its development and its attendant environmental problems, the monitoring and analysis of economic and social changes of the population.

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Methodology of the study; was to use the historic house, approach use analytical, and behavioral therapy, the method of quantitative statistical. The study has several findings, the most significant; affecting respects religious, social and political tourism. Highlighted tourism cultural characteristics of groups and the Sudanese to others. Can the tourism sector that provides job opportunities to the proportion (12%) of total employment. Contributed to the tourism sector in the GDP increase is estimated (68.3) million.

ENVIRONMENT AND ITS RELATIONSHIP TO SUSTAINABLE DEVELOPMENT

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**SUSTAINABLE DEVELOPMENT BETWEEN
ENVIRONMENTAL REALITY AND HUMAN SECURITY
REQUIREMENTS
A FIELD STUDY ON THE EMPLOYEES OF THE EGYPTIAN
FINANCIAL AND INDUSTRIAL COMPANY, "COMPOST
PLANT IN MANQABAD" ASSIUT CITY**

**Dr. Hend Ashraf Abbas, Dr. Gehan Sayed Abdel Aal, Dr. Magda Lafi Salem
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ABSTRACT :

The entire world has witnessed catastrophic environmental problems that are increasing day by day due to the irrational exploitation of natural resources ,in addition to the lack of awareness and environmental culture through to the indifference and responsibility of all members of society , institutions and active bodies . all of this has created falsehood for society and stoke the necessity of urgently searching for ways and means to get rid of these problems that threaten human security. And the aimed the current study is to strive towards sustainable development in the contemporary environment with interest in achieving the requirements of human security. And this study was applied to a sample of the employees of the Egyptian industrial financial company " the fertilizer factory" an industrial establishment. The sample number reached 50 singles, using interview and scale tools as data collection tools .the results of the study yielded on the deterioration of the environmental situation in that institution , and the lack of attention to environmental resources and protection from attrition, as well as a lack of commitment to trying to pursue the goals of sustainable development of human security.

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ENVIRONMENT AND ITS RELATIONSHIP TO EDUCATION

Assiut University Center for Environmental Studies-Egypt

THE ROLE OF COLLEGES OF EDUCATION IN RAISING ENVIRONMENTAL AWARENESS

IN LIGHT OF EGYPT'S 2030 VISION

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ABSTRACT:

In light of the developments that the world is going through today in various aspects of life, this development has affected the concept of the environment, which is no longer confined to pollution of ecosystems, but has gone far beyond that, and has come to include green economy, environmentally friendly cities, green architecture, and sustainable agriculture. And membership, industrialization and cleaner production, investment in rationalizing the use of water and energy, its renewable sources, investment in energy-saving and environmentally friendly means of transport, eco-tourism, re-use and recycling of waste in order to achieve sustainable development in order to achieve economic, social and environmental goals combined in a good framework for governance and community participation .

The country has set a set of strategic goals for the environment until 2030, as follows:

Rational and sustainable management of natural resources to support the economy, increase competitiveness and create new job opportunities.

Reducing pollution and integrated waste management.

Maintaining the balance of ecosystems and biological diversity and rational and sustainable management of them.

- Egypt's implementation of its international and regional obligations towards environmental agreements and the development of necessary mechanisms for this.

The state relies on the solidarity of all its institutions to achieve these important goals, and pays great attention to people's awareness and community participation to achieve this. The College of Education plays an important role

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in this regard because it is the institution that prepares the teachers charged with raising the minds of our children, the youth of tomorrow and the men of the future by developing the environmental awareness of the community by including these goals and ways to achieve them in the curricula of various educational programs for teacher preparation, and holding seminars, workshops and conferences. Which deals with environmental issues and problems and the best solutions for them, and urges community participation in environmental issues and problems and their prevention, and generates enthusiasm to adopt and support environmental issues in their modern sense.

Appendix

MANAGEMENT OF WATER RESOURCES

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EL ASSIUTY, EASTERN DESERT, EGYPT

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Abstract:

The objective of the present study aims to throw the light on hydrogeological condition of Wadi El Assiuty to evaluate the potentiality of groundwater resources in the target area. The study is based on well data and composite logs of the available wells, cutting samples of the new drilled wells, geological and hydrogeological cross sections, chemical analyses, pumping tests, geological map and literatures. The obtained results refer to the presence of two groundwater aquifers namely the Quaternary and the Eocene Carbonate aquifers. The groundwater in the Quaternary aquifer is located in three horizons consist mainly of medium to fine sand. Its salinity varies from 900 ppm in the eastern part to 1500 ppm in the western part. The aquifer is highly to moderately productive allover the area. The Eocene carbonate aquifer is tapped only by one well. It is composed mainly of dolomitic limestone with some shale beds. It is probably low productive aquifer, with groundwater salinity reaches to 10000 ppm. According to the hydrochemical classifications, the water samples in the study area are mainly of Sodium Chloride (NaCl) water type. In the present, eight pumping tests were carried out in the study area to determine the hydraulic parameters of the aquifer, where three observations wells were drilled at different depths around production wells located at different distances from it. The transmissivity factor was obtained from the analysis of the pumping test data using the Jacob's method. In conclusion, several scenarios of water management were proposed, for groundwater extraction depending on a certain amount of water which will be extracted in the future from each well field. The present work recommended the constructing barriers and dams to store the surface runoff to increase the recharge rate of the Quaternary aquifer and drilling new deep observation wells are required to evaluate the deeper Carbonate and Nubian aquifers.

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Appendix

POPULATION COMMUNITIES AND GEOGRAPHIC AND ENVIRONMENTAL INFORMATION SYSTEMS

Assiut University Center for Environmental Studies-Egypt

Spatial Analysis of Gas Stations in Dammam City

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ABSTRACT:

GIS is a key tool in most recent applied studies, and spatial data analysis is often seen as integrating statistical potential as part of a set of tools provided with GIS, by adding statistical functions to the list of GIS capabilities, or By providing an easy link between GIS and statistical package. The second, and perhaps most interesting, aspect is the extent to which statistical and even spatial statistical methods are valid for use with GIS. In this paper, we examine the spatial analysis of gas stations in Dammam by analyzing distribution patterns and analyzing the measurement of geospatial distributions. Criteria for regulating stations conforming to the requirements of the Ministry of Rural and Municipal Affairs, addressing quantitative analysis of gas stations in Dammam city, and finally to identify the efficiency of gas stations in Dammam city and the problems of gas stations and treatment methods.

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