Egypt. J. Soil Sci. **Vol. 54**, No. 2, pp. 111- 119 (2014)

Features of Desertified Soil in South of El-Hosainiya Plain, El- Sharqia Governorate, Egypt

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THE CURRENT investigating was carried out to recognize the problems in south of El-Hosainiya Plain soils through studying some soil characteristics. To fulfill this purpose five soil profiles were taken to present five villages, *i.e.,* El- Rowad, Khaled Ibn El-Waleed, El-Azhaar, El-Salah and Tarek IbnZiad. The results indicated that, soil reaction in the soils was alkaline. Soil salinity varied from moderately to highly saline. Organic matter decreased with increasing depth. Cation exchange capacity was related to clay and organic matter contents. $CaCO_3$ content ranged from 1.05 – 5.70% in the successive layers of the studied soil profiles. On the other hand, the dominated texture was clay in all soil profiles.

Concerning available macro nutrients; the highest values of available NP and K were; 53.2, 7.5 and 600 mg.kg^{-1}, respectively in profile 2 in the layer (0-25),while the lowest values were; 16.8, 1.0, for N and P in profile 5 in the layer(100-150) and 160 mg Kg^{-1} for K in profile 4 in the layer (30-60). Regarding to available micronutrients; the highest values of available Fe, Zn, Mn and Cu were; 8.4, 2.3, 5.3 and 2 mg.kg^{-1}, in profiles 5, 4, 5 and 4 in layers (0-20), (30-60), (0-20) and (0-30), respectively. While the lowest value of Fe was 2.0 mg.kg^{-1} in profile 1 in the layer (100-150).But, the lowest values of Zn, Mn, and Cu were; 0.9, 1.8 and 0.67 mg.kg^{-1} in profile; 3 in layer (100-150), respectively. The obtained results revealed that the high risk of chemical vulnerability is due to soil salinization, alkalization and decreasing in organic matter and some nutrients.

Keywords: Soil desertification, South El-Hosainiya plain, Soil salinization, Soil alkalization, Nutritional status.

The surface area of Egypt (1.000.000Km^2) consists of about 96% desert and about 4% of its total area is the traditional agricultural land of the Nile Delta and valley. Therefore, there is a several pressure and demand raised by the growing population on limited area of agricultural land. Also, soil desertification in terms of salinization is one of the problems in the land in Egypt. Salinization may be a result of natural soil- forming processes (FAO, 1986) and it may also be a result of mismanagement of irrigated soils. It is worsened by the high salt contents of the irrigation water. The rapid expansion of irrigated agriculture within the last fifty years, together with the presence of inadequate drainage systems led to unproductive soil environment. Egypt is suffering from the problem of population pressure and declining cultivated area .Many of reclaimed areas are subjected to desertification due to accumulation of salts , pollutants and other factors. Soil salinization is one of the main types of land desertification, which occurred widely around saline lakes in arid and semi-arid regions. Studies on the impact of salinization on the distribution and diversity of plant communities are still scarce. (Ying *et al*., 2007). Sea water intrusion may have contributed to high salinity of these soils. Fluctuation of water table and salt accumulation by prevailing arid conditions are most certainly some of the factors causing high salinity (Abd El- Hady and Abou Yuossef, 1998). El- Hosainiya plain is located in the northern part of the Nile Delta and is considered one of the main promising areas for agricultural expansion on both sides of El-Salam canal.

The present work aims at studying the rqiafeatures of desertified soil in south of El-Hosayinia plain, El- Sharqia Governorate, Egypt.

Material and Methods

The investigated area is located in the north part of the Nile Delta, south of El- Hosainiya plain– El-Sharqia Governorate. It is bounded by longitudes 32˚ 6' 59.05" & 31˚58' 45" East and latitudes 31 3' 50.33"&30˚ 57' 18.01" North.

A total of 5 soil profiles were collected to presente the region . They were taken from five villages, *i.e.,* El- Rowad village , Khaled Ibn Elwaleed village, El Azhaar village, El Salah village and Tarek Ibn Ziad village. Each village was represented by one profile.

Soil samples were taken from all the layers of the above mentioned soil profiles and analyzed.

The characteristics of the investigated soils, *i.e.,* particle size distribution were determined using the hydrometer method of Bouyoucos, (1927) out lined by (Piper 1950). Soil pH, EC, soluble cations and anions, OM, CEC, $CaCO_3$, available N,P,K, Fe, Mn, Zn and Cu were determined by Kute (1986) and page *et al.* (1982).

Results and Discussion

Characteristics of the investigated soil samples

Particle size distribution and texture class

The particle size distribution data of the collected soil samples from villages of El- Rowad, Khaled Ibn Elwaleed, El- Azhaar, El- Salah and Tarek Ibn Ziad are presented in Table 1 and revealed that, clay, silt and sand contents were distributed in different ways in the successive layers of the studied desertified soil profiles as following:

In profiles 1, 2 and 4 which represent the villages of El- Rowad, Khaled Ibn El-Waleed and El- Salah, respectively: clay percentages were decreased with increasing depth. On the other hand, silt and sand percentages were increased with increasing depth. While, in profiles 3 and 5 which represent the villages of El- Azhaar and Tarek Ibn Ziad, respectively, clay and silt percentages were decreased with increasing depth. While, sand percentage increased with depth. These results are in agreement with El-Naggar (1986) and Ibrahim (1998).

TABLE 1. Some physical and chemical properties of the investigated soil samples.

Profile No. Village symbol	**Depth (Cm)**	**Particle size distribution**			**Texture class**	**pH**	**EC (1:2.5) dS/m**	**OM %**	**CEC meq/ 100g**	**$CaCO_3$ %**
		Sand %	**Silt %**	**Clay %**						
1. El-Rowad	0-25	33.12	12.80	54.08	Clay	8.10	20.00	1.66	49.20	5.70
	25-65	35.12	13.60	51.28	Clay	8.00	15.00	1.54	41.30	3.24
	65-100	35.12	15.60	49.28	Clay	7.66	12.60	1.42	22.00	1.81
	100-150	37.92	12.80	49.28	Clay	7.80	13.70	1.32	29.30	1.41
2. Khaled Ibn Elwaleed	0-25	33.12	14.80	52.08	Clay	7.30	10.60	1.37	57.20	2.74
	25-75	37.12	12.40	50.48	Clay	7.40	30.00	1.22	32.09	2.77
	75-150	33.92	19.60	56.48	Clay	7.79	7.48	0.97	39.20	2.53
3. El-Azhaar	0-20	20.32	23.60	56.08	Clay	7.40	30.00	1.27	51.20	1.49
	20-50	25.12	21.60	53.28	Clay	7.87	8.10	1.13	49.20	1.25
	50-100	33.12	15.60	51.28	Clay	7.80	6.93	1.11	25.00	1.37
	100-150	25.12	21.60	53.28	Clay	7.75	6.99	1.10	28.70	1.49
4. El-Salah	0-30	29.12	19.60	51.28	Clay	7.30	15.55	1.78	38.13	1.89
	30-60	33.12	19.60	47.28	Clay	7.80	9.30	1.31	33.60	1.51
	60-100	30.32	19.60	50.08	Clay	7.71	14.30	1.21	31.20	1.29
	100-150	39.92	10.80	49.28	Clay	7.52	18.70	1.11	37.00	1.17

5. Tarek Ibn Ziad	0-20	25.92	16.80	57.28	Clay	7.70	13.00	1.52	42.20	2.01
	20-60	33.12	13.60	53.28	Clay	8.25	5.10	1.37	36.22	1.29
	60-100	28.32	20.40	51.28	Clay	7.00	16.10	1.18	41.10	1.17
	100-150	33.12	15.60	51.28	Clay	7.50	16.50	1.10	39.00	1.05

Regarding to the texture class the dominated texture was clayey in all soil profiles.

Chemical properties

The soils were represented by soil profiles 1, 2, 3, 4 and 5 were shown in Table 1 and presented five villages, *i.e.,* El- Rowad, Khaled Ibn El- Waleed, El - Azhaar, El- Salah and Tarek Ibn Ziad.

The obtained results in Table 1 revealed that, pH values of the studied soils were neutral to alkaline as they fluctuating between 7.0 and 8.25 in the successive layers of the studies soil profiles. The lowest value was recorded in profile 5 in the layer (60-100). While the highest value was recorded in profile 5 in the surface layer (0-30). These data are in a good agreement with those obtained by Ahmed and El-Taweil (1993) they studied that soil characteristics of some soils in the northern part of Delta and reported strong alkalinity of some soils, where pH reached to 8.75.

The data in Table 1 showed that, the electrical conductivity ranges between 5.1- 30.0 dS/m in the representative soil profiles. The lowest value was recorded in profile 5 in the sub surface (30-60). While the highest value was recorded in profile 3 in the surface layer (0-20). It also noticed that, the surface layer contains the high soluble salts in most profiles. This is may be due to the movement of water carrying salts as through capillary raise. These data agreement with those obtained by Abd El-Hady and Abou Yuossef (1998) found that the EC values ranged from 14.6- 30.90 dS/m in this area.

As regard to the organic matter percentage (OM %), data in Table 1 showed that (OM %) ranges between 0.97 and 1.78 % in the successive layers of the studied soil profiles. The lowest value was recorded in profile 2 in the layer (75-120). While the highest value was recorded in profile 4 in the surface layer (0-20). These results are confirmed by the observations made by some investigators (Ibrahim *et al.,* 2001 and Ibrahim & Omer, 2004). Generally, the surface layers are characterized by high values which tend to decrease with depth. Most of the investigated soils had been used as fish ponds for long periods before they were dried out and used it for cultivation.

The results of the studied soil profiles are given in Table 1. CEC (meq/100g soil) ranges between 22 and 57.2 meq/100g soil in the different layers of the studied soil profiles. The lowest value was recorded in profile 1 in the layer (65-100). While the highest value was recorded in profile 2 in the surface layer (0-25). In general, CEC is related to clay and organic matter contents. These results are in agreement with those obtained by El- Toukhy (1995) who reported that these soils were given higher CEC than recent soils .

Data in Table 1 showed that, calcium carbonate content ($CaCO_3$%) ranges between 1.05 and 5.70 % in the different layers of the studied soil profiles. The lowest value was recorded in profile 5 in the deepest layer (100-150). While the highest value was recorded in profile 1 in the surface layer (0-25 In this concern, Abd El-Hady and Abou Yuossef (1998) studied the chemical properties of the soils of the Manzala plain and they found that wide variation in $CaCO_3$.

Concerning of the soluble cations and anions, data in Table 2 showed that, the dominated cation was Na, followed by Mg then Ca and K. On the other hand, the distribution of soluble anions were Cl > SO_4> HCO_3. In this concern, El-Toukhy (1995) studied the northern Delta region, and reported that, soluble cations were dominated by Na followed by Mg, Ca and K. While the soluble anions were Cl > SO_4> HCO_3. These data almost similar to data obtained by Abd El-Hady and Abou Yuossef (1998).

Regarding to soluble sodium percentage (SSP) data in Table 2 revealed that, (SSP) is fluctuating between 44.4 and 72.04 %.The lowest value was recorded in profile 5 in the sub surface layer (20-60). While, the highest value was recorded in profile 4 in the subsurface layer (30-60).

TABLE 2. Soluble cations and anions of the investigated soil samples in (1:2.5 soil water extract).

Profile No. Village symbol	Depth (Cm)	Cations (meq/L)				Anions (meq/L)				SSP
		Ca	Mg	Na	K	CO_3	HCO_3	Cl	SO_4	
1. El-Rowad	0-25	25.70	46.00	128.00	1.20	0.00	6.30	148.00	46.6	63.70
	25-65	28.30	42.30	87.20	1.20	0.00	6.00	127.00	26.00	54.80
	65-100	17.45	38.80	69.70	1.0	0.00	5.00	102.00	19.95	54.90
	100-150	18.30	43.20	75.78	1.60	0.00	4.30	120.00	13.58	54.57
2. Khaled Ibn Elwaleed	0-25	31.60	35.7	59.43	1.53	0.00	7.80	112.00	8.4	50.25
	25-75	40.60	57.20	201.70	2.82	0.00	9.40	190.50	102.42	66.72
	75-120	16.50	18.40	38.45	2.05	0.00	6.80	58.40	10.20	50.99
3. El-Azhaar	0-20	55.30	38.40	197.80	1.37	0.00	10.70	198.00	84.17	67.54
	20-50	14.70	17.20	48.70	1.30	0.00	5.90	60.50	15.50	59.46
	50-100	9.00	7.48	43.74	0.80	0.00	4.00	45.80	11.22	71.68
	100-150	4.70	16.70	48.26	0.61	0.00	5.00	51.20	14.07	68.68
4. El-Salah	0-30	17.60	37.4	76.40	3.56	0.00	5.00	112.70	17.26	56.61
	30-60	5.00	8.64	37.20	0.80	0.00	6.20	40.40	5.04	72.04
	60-100	28.80	46.75	84.90	0.57	0.00	8.78	122.80	29.44	52.73
	100-150	22.30	52.40	90.70	0.62	0.00	5.30	118.00	42.72	54.63
5. Tarek Ibn Ziad	0-20	43.20	40.90	89.10	3.67	0.00	10.00	157.00	9.90	50.40
	20-60	34.50	36.50	58.20	1.81	0.00	5.25	107.80	18.00	44.40
	60-100	30.00	20.00	100.00	2.26	0.00	4.00	116.00	32.26	65.68

	100-150	30.70	36.20	130.40	2.60	0.00	5.00	188.00	6.90	65.20

SSP (Soluble sodium percentage) = $\frac{\text{Na meq/L}}{\text{Soluble cations meq/L}} \times 100$

Generally, in this region, the present values of electrical conductivity can be caused by poor management of irrigation schemes, usage of saline irrigation water and inefficient drainage. This type of salt accumulation mainly occurs under arid and semi-arid condition. Salinization and or alkalinization may be also caused by intrusion of sea water or fossil saline ground water bodies to the ground water reserves of good quality. Also, there are misuse of irrigation leading to flooding in some times of the year, especially in heavy clay soils, absence of conservation measurements, shortening of the fallow period and the excessive use of chemical fertilizers.

From the above mentioned results it can be concluded that, soil reaction in the soils is slightly alkaline to alkaline. Soil salinity values indicated that, wide variation ranging from no salinity to high salinity. Also, organic matter content, decreased with depth. Moreover, cation exchange capacity was related to clay and organic matter contents. $CaCO_3$ content decreased with depth.

NPK contents

Data in Table 3 showed that available N in Profiles 1, 2, 3, 4 and 5 presented uncultivated soils (desertified soils) ranged from 16.8 – 53.2 mg.kg .The highest value was in profile 3 in the surface layer (0-20). The lowest value was in profile 5 in the deepest layer (100-150). In this concern, El-Tokhy (1995) found that the soils of northern Delta contain at 125- 174 mg.kg-1 for available N. On the contrary, Ibrahim (1998) reported that the available N of northern Delta soils ranges between 1-29 mg.kg-1.

TABLE 3. Available macro and micronutrients of the investigated soil samples.

Concerning of, available P in the abovementioned profiles, data showed that available P ranged from 1.0 – 7.5 mg.kg^{-1}. The highest value was in profile 2 in the surface layer (0-25). While the lowest value was in profile 3, 4 and 5 in the deepest layers (100-150).This is may be due to decreasing in organic matter content in this layer. In fact, many factors affected on availability of phosphorus. El-Tokhy (1995) observed that available P ranged from 4.5-28.4 mg.kg^{-1} in fluvio-marine deposits.

With regarding, available K in the same profiles, results showed that, available K ranged from 160 -600 mg.kg^{-1} . The highest value was in profile 2 in the surface layer (0-25). The lowest value was in profile 4 in the subsurface layer (30-60). This is related to clay content and organic matter content. In this concern, Abdel Salam (2001) reported that the high values of K were in fine texture soils.

Profile No. Village symbol	**Depth (Cm)**	**Concentration of available ions (mg.kg^{-1})**						
		N	**P**	**K**	**Fe**	**Zn**	**Mn**	**Cu**
1. El-Rowad	0-25	44.80	6.00	400.00	6.00	1.90	4.30	1.20
	25-65	39.20	4.60	420.00	5.50	1.70	3.50	0.78
	65-100	28.00	3.00	390.00	4.30	1.10	2.11	0.70
	100-150	19.60	2.50	350.00	2.00	0.90	1.60	0.50
2. Khaled Ibn Elwaleed	0-25	53.20	7.50	600.00	6.20	2.11	3.68	1.67
	25-75	36.40	6.80	520.00	4.40	1.37	3.11	1.70
	75-150	19.60	4.40	410.00	3.60	1.50	2.20	1.11
3. El-Azhaar	0-20	53.20	6.60	490.00	5.70	1.98	3.67	1.21
	20-50	36.40	4.00	380.00	4.90	2.00	3.10	1.10
	50-100	22.40	3.60	400.00	3.60	1.30	2.30	0.87
	100-150	19.60	1.00	350.00	3.00	0.90	1.80	0.67
4. El-Salah	0-30	36.40	7.00	220.00	5.50	2.00	3.74	2.00
	30-60	25.20	4.70	160.00	4.70	2.30	3.60	1.40
	60-100	19.60	3.00	200.00	4.10	2.11	3.00	1.32
	100-150	19.60	1.00	170.00	4.00	1.60	2.11	1.11
5. Tarek Ibn Ziad	0-20	30.80	5.00	425.00	8.40	2.11	5.30	1.64
	20-60	22.40	6.70	390.00	5.30	2.00	4.70	1.52
	60-100	19.60	3.00	410.00	4.60	1.60	4.00	1.11
	100-150	16.80	1.00	210.00	3.30	1.40	3.40	1.00

Micronutrients content (Fe, Mn, Zn and Cu)

Data in Table 3 showed that, available Fe in Profiles 1, 2,3, 4 and 5 (uncultivated soils) ranged from 2-8.4 mg.kg^{-1} .The highest value was in profile 5 in the surface layer (0-20).The lowest value was in profile 1 in the deepest layer (100-150). This is related to decreasing in organic matter.

With regarding, available Zn in the above mentioned profiles, results showed that, available Zn ranged from 0.9- 2.3 mg.kg-1 .The highest value was in profile 4 in the surface layer (0-20). The lowest value was in profile 1 in the deepest layer (100-150).

Concerning, available Mn in the same profiles, results showed that, available Mn ranged from 3.6-5.3 mg.kg-1.The highest value was in profile 5 in the surface layer (0-20). The lowest value was in profile 1 in the deepest layer (100-150).

Concerning of available Cu in the same profiles, results showed that , available Cu ranged from 0.5- 1.7 mg.kg-1.The highest value was in profile 2 in the sub surface layer (25 - 75). The lowest value was in profile 1 in the deepest layer (100-150).

In this concern, El- Shazly *et al.* (1991) evaluated Fe and Mn in some soils adjacent to El-Manzala and Edku Lakes found that these soils contain 5-17 $mg.kg^{-1}$ Fe and 2-5 mg.kg-1 Mn. There was a positive correlation with contents of clay and organic matter and a negative with $CaCO_3$. On the other hand, Abd El-Hamied *et al*. (1991) studied Cu and Zn status in the salt affected soils adjacent to some lakes of Egypt and found that these soils contain 1.4-3.8 mg.kg-1 Zn and 0.8-2 mg.kg-1 Cu.

References

Abd El- Hady, A.A.and Abou Yuossef, M.F. (1998). Study on pollution by heavy metals and morphological features of El-Manzala plain. *Egypt J. Soil Sci.* **38:**286-307.

Abd El-Hamid , E.A., Hassan, F.A., Tag El-Dein, A.S. and Hamad, A.M. (1991) Copper and Zinc status in some salt-affected soils of Egypt. *Egypt. J. Soil Sci.* **31** (4):437-447.

Abdel Salam, M.A. (2001) Studies on potassium in some soils in Kaliebiya, Egypt. *M.Sc.Thesis* , Fac. of Agric., Moshtohor, Zagazig, Univ., Egypt.

Ahmed, S.H. and El-Taweil, B. (1993) Characteristics of salt-affected soils in northern Delta of Egypt. *Egypt. J. Soil Sci.* **33** (4): 421-434.

El- Naggar, S.A. (1986) Moisture characteristics of some Nile Delta soils. Structure status and hydraulic conductivity in the magnesium affected Vertisols of the north Delta region . *Ph.D. Thesis,* Fac. Agric., Cairo Univ., Egypt.

El-Shazly, M.M., Abd-El Hamid, E.A., Moussa,A.A. and Metwally, M.A. (1991) Fe and Mn status in some terraces and Fluvents. *Egypt.J.Soil Sci.* **31:**1-8.

El-Toukhy, M.M. (1995) Studies on land evaluation and land use of some soils in north Delta. *Ph.D.Thesis ,* Fac. of Agric, Zagazig Univ. (Banha Branch), Egypt.

FAO (1986) The land resource base. Rome: FAO (ARC/86/3).

Ibrahim, G.T. (1998) Pedochemical studies on some newly reclaimed soils in A.R.E. *M.Sc. Thesis*, Fac. of Agric., Zagazig Univ.

Ibrahim, M., Abd Al-galil, A. and Kotb, M. (2001) Total and available Fe, Mn, Zn and Cu in some soils of Sohag Governorate and their association with some soil properties. *Assiut J.Agric. Sci.* **32:** 71-86.

Ibrahim, M. and Omer, A. (2004) Heavy metals contamination in soils of the major roadwaysides and its environmental impact, Sohag, Egypt. 2nd *Int. Conf. For Develop. and the Env. In the Arab World*, pp.101-120.

Kute, A. (1986) *"Methods of Soil Analysis"*, No.9 parte 1, Amer. Soc. Agron. Inc., Madison, Wisconsin, USA.

Page, A.L., Miller, R.H. and Keeney, D.R. (1982) *"Methods of Soil Analysis .Part2: Chemical and Microbiological Properties"*, 2nd ed., Amer .Soc. Agron., Monograph No 9, Madison, Wiscosin, USA.

Ying, D., Zhi, L., Run, S. and Yan, H.(2007) Dynamics of species diversity and characteristics of halophytic plant communities around saline lakes in arid and semi-arid regions of Inner Mongolia. *Biodiversity-Science.* **15**(3): 271-281.

(*Received* 21/4/2013;
accepted 9 /5/2013)

خواص الارض المتصحرة بمنطقة جنوب سهل الحسينية – محافظة الشرقية – مصر

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أجريت هذه الدراسة بغرض التعرف على المشاكل الموجودة فى اراضى جنوب سهل الحسينية والتى ادت الى تصحرها .ولتحقيق ذلك تم حفر 5 قطاعات تربة للمناطق المتصحرة لقرى شباب الخريجين بالمنطقة وهى (قرية الرواد- خالد بن الوليد – الازهار – الصلاح – طارق بن زياد). وتم احضار عينات من الطبقات المتعاقبة للقطاعات السابقة واجراء بعض التحليلات عليها للوصول الى اهم النتائج التاليه :-

- تميزت الاراضى بسيادة القوام الطيني فى جميع القطاعات وتراوحت نسبة الطين من 47,28 الى 57,28 %. كما تميزت بأنها ذات PH قلوي خفيف الى متوسط حيث تراوحت القيم من 7,0 الى 8,25 و الاملاح الكلية الذائبة (EC) من متوسطة إلى عالية (من 5,10 الى 30,0 ديسيسيمنز/م). كما تناقصت المادة العضوية مع العمق. لوحظ أيضا ارتباط قيمة السعة التبادلية الكاتيونية بمحتوى الارض من المادة العضوية ونسبة الطين. وتراوحت نسبة كربونات الكالسيوم من 1,05 – 5,07% .

- احتوت التربة على العناصر الكبري الميسرة بنسب تراوحت بين منخفضة الى متوسطة حيث كانت التركيزات كالتالى: النيتروجين من 16,8 – 53,2 ملليجرام /كجم،الفوسفور من 1-7,5 ملليجرام /كجم والبوتاسيوم من 160-600 ملليجرام /كجم.ايضا تراوحت نسب العناصرالمغذية الصغرى الميسرة من متوسطة الى مرتفعة حيث كانت التركيزات كالتالى:الحديد من 2,0-8,4 ملليجرام/كجم،الزنك من 0,9- 2,3 ملليجرام /كجم،المنجنيز من1,8-5,3 ملليجرام/كجم و النحاس من 0,67- 2 ملليجرام /كجم . كما لوحظ تناقص التركيزات لهذه العناصر مع العمق.

مما سبق نستنتج أن المشاكل السائدة في اراضى المنطقة هي ارتفاع الاملاح والقلوية وانخفاض فى محتوى المادة العضوية وبعض المغذيات .