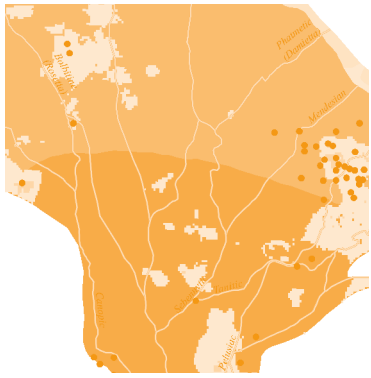
More remarks on settlement patterns in the Nile Delta in the 3rd millennium BC



Abstract: Research on settlement patterns in the Nile Delta in the 3rd millennium BC is still in its infancy. The work to date has been limited mainly to microregions and is related to the surveys conducted intensively since the 1980s, especially in the northeastern Delta and the area of Tell el-Fara'in/Buto. Recent inventorying and mapping work by the Egypt Exploration Society Delta Survey, which included also the results of new fieldwork, has created a map presenting the distribution of the Early Dynastic and Old Kingdom settlements in the Delta. Assuming that the recognized distribution of sites reflects to some extent the ancient settlement network, it gives grounds for considering the underlying reasons behind its formation. This paper highlights factors that could be of key significance for understanding this phenomenon, identifying areas that were pivotal to the process and those clearly marginal in their role. In effect, planning ground surveys and excavation research should gain in effectiveness.

Keywords: Nile Delta, Early Dynastic, Old Kingdom, settlements, settlement landscape

In a previous article, an effort was made to describe the settlement network in the Delta in the 3rd millennium BC (Małecka-Drozd 2020). The known sites were listed and their distribution in space presented, discussing the evolution of the settlement network and

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the possible causes for the phenomenon. Further in-depth analysis has verified some of the assumptions made earlier. The present text is an extension and supplementation of the theses published previously.

NUMBER AND DISTRIBUTION OF SITES

SITE INVENTORY

The list of sites presented here [*Table 1*; *Fig. 1*] differs slightly from the inventory presented previously (Małecka-Drozd 2020: Table 1, Figs 1–6). The sites initially taken into account were located in a broadly understood Lower Egypt, including the so-called Memphite area (reaching to the Dahshur-el-Tibbin line in the south). However, the different geographical conditions in the region of Memphis, that is, a narrow river valley and the influence exerted by the capital and its cemeteries, made for a different pattern of changes in this particular area compared to the Nile Delta proper.[1] This

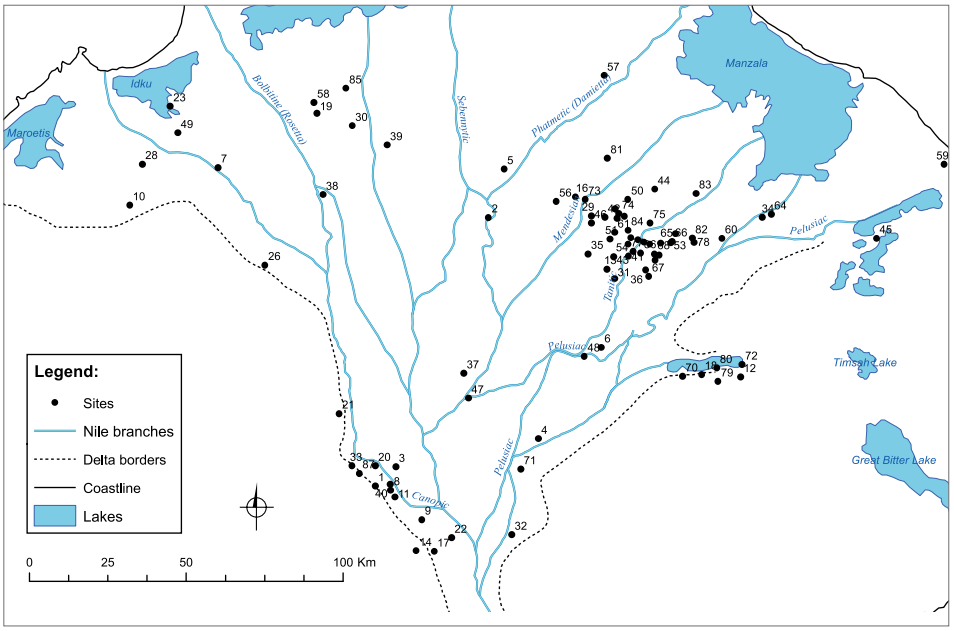

Fig. 1. The Nile Delta during the Early Dynastic and Old Kingdom periods (After Bietak 1975: Figs 23, 25 and 29 and Ullmann et al. 2019: Fig. 3c | drawing N. Małecka-Drozd)

1 The borders of the nomes were traced after Farouk Gomaà (1987: 7 and 171–207): the one between the 1st and 2nd Lower Egyptian nomes based on an incompletely preserved record from the White Chapel of Sesostris I, indicating that Abu Rawash belonged to the 1st nome, and the one of the 13th nome in the Eastern Delta based on Gomaà's division of the toponyms combined with the Heliopolitan nome into three categories: those from the vicinity of Heliopolis, those from the area south of Heliopolis, and "others" which could be linked to the Eastern Delta region. Toponyms located south of Heliopolis were excluded from further analysis.

Table 1. The Nile Delta sites during the Early Dynastic and Old Kingdom periods
Sources: SF – single finds; W – written sources; S – surveys (including drillings); E – excavations (including test trenches) **Type:** S – settlement; C – cemetery
Chronology: ED – Early Dynastic; EOK – early Old Kingdom; LOK – late Old Kingdom
Other: EES DS – Egypt Exploration Society Delta Survey; LE – Lower Egyptian

No.	MODERN NAME	ANCIENT NAME	SOURCE	TYPE	CHRONOLOGY
1.	Abu Ghalib	Unknown	W?, S, E	S, C	ED, EOK, LOK
2.	Abu Sir Bana/ Kom el-Akhdar	*D̲J3dw* / *Pr-wśjr* / Busiris	W, SF	S, C	LOK
3.	Ashmun	*Ḥrtj ḏḥwtj*	W	S	EOK
4.	Aulad Dawud	Unknown	E, S	S, C	ED, EOK, LOK
5.	Behbeit el-Hagar	*Nṯrw*	W	S	EOK, LOK
6.	Beni Amir	Unknown	S, E	C	ED, EOK(?)
7.	Damanhur	*Dmjt* / *Dmjt* (*Ḥr*) / Hermopolis Parva	W, S, E	S	ED, EOK, LOK
8.	el-Baraniya	Unknown	S	C	EOK(?), LOK
9.	el-Birqash	Unknown	S	C?	ED, EOK(?), LOK
10.	el-Burdan(?)	*Ḥ3mw*	W	S	LOK
11.	el-Qatta	*Bwt* ?	W?, S, E	S, C	ED, EOK, LOK
12.	el-Shaqafiya	Unknown	S	?	ED
13.	el-Rubaiyin	Unknown	E	C	LOK
14.	Gebel el-Nahya	Unknown	S?	C	EOK(?), LOK(?)
15.	Gezira Sangaha	Unknown	S, E	C	ED
16.	Hamsa	Unknown	S	?	EOK, LOK
17.	Kafr Hakim (Barakat Drain)	Unknown	S, E	S	EOK(?), LOK
18.	Kafr Hassan Dawud	Unknown	E	C	ED
19.	Kanasiyet el-Saradusi	Unknown	S	?	ED
20.	Kom Abu Awali	Unknown	S, E	?	ED, EOK
21.	Kom Abu Billo	*Pr-ḥwt-ḥr-*(*nbt*)*Mfk3t* / Terenuthis	E	C	LOK
22.	Kom Ausim	*Ḫm* / Letopolis	W, S	S, C	EOK, LOK
23.	Kom Aziza	Unknown	S	S?	LOK(?)
24.	Kom el-Ahmar I	Unknown	S	?	EOK, LOK
25.	Kom el-Ahmar II	Unknown	S	?	EOK, LOK

REFERENCES	NOTES	No.
Junker 1928; Larsen 1936; Kroeper 1989; EES DS No. 750		1.
Yoyotte 1958; Fischer 1976; Zibelius 1978; Kessler 1982; Gomaà 1987; Kroeper 1989; EES DS No. 77		2.
Zibelius 1978		3.
Kroeper 1989; EES DS No. 664		4.
Zibelius 1978; EES DS No. 83		5.
Leclant 1973; 1976; Bietak 1975; Kessler 1982; Kroeper 1989; Krzyżaniak 1989; Abd el-Hagg Ragab 1992; Hendrickx and van den Brink 2002		6.
Evers 1929; Kaiser 1964; Zibelius 1978; Kroeper 1989		7.
Junker 1928; Kessler 1982; Kroeper 1989		8.
Junker 1928; Kessler 1982; Kroeper 1989; EES DS No. 49(?)		9.
Zibelius 1978	Location unknown; area of Lake Mareotis, 3rd LE nome	10.
Chassinat, Gauthier, and Piéron 1906; Junker 1928; Brunner 1952—1953; 1954—1956; Leclant 1950; 1952; 1953; 1954; Kaiser 1964; Kessler 1982; Gomaà 1984; Kroeper 1989; Hendrickx and van den Brink 2002; EES DS No. 749		11.
Neuffer, Bittel, and Schott 1932; Kroeper 1989; EES DS No. 529		12.
Daressy 1902; Porter and Moss 1934; Kessler 1982; Kroeper 1989		13.
Jones 1995		14.
Fischer 1958; Bietak 1975; Kessler 1982; van den Brink 1987; Kroeper 1989; Krzyżaniak 1989; Hendrickx and van den Brink 2002; Jucha 2009; EES DS No. 592		15.
Brewer et al. 1996		16.
Jones 1995		17.
Salim el-Hangary 1992; Bakr, Abd el-Moneim, and Selim 1996; Lovell 2001; Hendrickx and van den Brink 2002; van Wetering and Tassie 2003; Hassan et al. 2004; EES DS No. 221		18.
Kroeper 1989		19.
Daressy 1912; Kroeper 1989		20.
Farid 1973; Leclant 1971; 1972; 1973; Kessler 1982; Kroeper 1989; EES DS No. 729		21.
Junker 1928; Zibelius 1978; Kessler 1982; Kroeper 1989; EES DS No. 308		22.
Wilson and Grigoropoulos 2009; EES DS No. 626		23.
Brewer, Redford, and Redford 1996; EES DS No. 176		24.
Brewer, Redford, and Redford 1996		25.

No.	MODERN NAME	ANCIENT NAME	SOURCE	TYPE	CHRONOLOGY
26.	Kom el-Hisn	*ḥwt jḥ(w)t / Jmw / Jmȝw* / Momemphis	W, S, E	S, C	ED, EOK, LOK
27.	Kom el-Khilgan	Unknown	S, E	S, C	ED, EOK
28.	Kom el-Qanatar	Unknown	S, E	S	ED
29.	Kom Om Sir	Unknown	S	S	ED, EOK
30.	Kom el-Roka	Unknown	S	S	EOK(?), LOK(?)
31.	Kufur Nigm / Ezbet el-Tell	Unknown	S, E	S, C	ED, EOK
32.	Masr Gedida/Tell el-Hisn	*Jwnw* / Heliopolis	W, S, E	S, C	ED, EOK, LOK
33.	Merimde Benisalame	Unknown	S, E	C	ED
34.	Minshat Abu Omar	Unknown	S, E	S, C	ED
35.	Minshat Ezzat	Unknown	E	C	ED
36.	Minshat Radwan	Unknown	S	?	ED
37.	Quesna	Unknown	S, E	C	EOK
38.	Sa el-Hagar	*Sȝw* / Sais	W, S, E	S	ED, EOK, LOK
39.	Sakha	*Ḫȝsw*[*w*] / Xois	W(?)	S	EOK(?), LOK(?)
40.	Talya	Unknown	S	C	EOK, LOK
41.	Tell Abu Dawud I	Unknown	S	S	EOK, LOK
42.	Tell Abu Dawud II	Unknown	S	S	ED
43.	Tell Abu el-Halyat	Unknown	S	S, C?	ED, EOK
44.	Tell Abu Howsheh	Unknown	E?	C	ED
45.	Tell Abu Seifa	*Msn*	W, S	S, C	EOK, LOK
46.	Tell Abu Shieisa	Unknown	S	C?	ED(?), EOK(?)
47.	Tell Athrib	*Km wr / Kw wj* / Athribis	W, E	S	ED?, LOK
48.	Tell Basta	*Bȝśt / Pr Bȝśt* / Bubastis	W, E	S, C	ED, EOK, LOK
49.	Tell Bisintawi	Unknown	E	C	ED, EOK
50.	Tell el-Dab'a el-Qanan	Unknown	S, E	S, C	ED, EOK

REFERENCES	NOTES	No.
Zibelius 1978; Kessler 1982; Wenke et al. 1988; Kroeper 1989; Cagle 2003; Wenke, Redding, and Cagle 2016; EES DS No. 24		26.
Hendrickx and van den Brink 2002; Buchez and Midant-Reynes 2007; 2011; Tristant, De Dapper, and Midant-Reynes 2008; EES DS No. 607		27.
Scharff 1926; Kroeper 1989; Wilson and Grigoropoulos 2009; EES DS No. 385		28.
Chłodnicki, Fattovich, and Salvatori 1992a; Hendrickx and van den Brink 2002; EES DS No. 341		29.
Ballet and von der Way 1993; von der Way 1997; EES DS No. 584		30.
Leclant 1963; 1964; 1983; Leclant and Clerc 1985; 1986; 1991; Fischer 1963; Müller 1966; Bietak 1975; Kessler 1982; Bakr 1988; 1994; 2003; Kroeper 1989; Krzyżaniak 1989; Hendrickx and van den Brink 2002; EES DS No. 193		31.
Daressy 1916; Porter and Moss 1934; Debono 1954; Zibelius 1978; Habachi 1984		32.
Junker et al. 1930; Eiwanger 1979; Kessler 1982; Kroeper 1989		33.
Müller 1966; Kessler 1982; Kroeper 1988; 1992; Kroeper and Wildung 1985; 1994; 2000; Krzyżaniak 1992; 1993; Hendrickx and van den Brink 2002; EES DS No. 222		34.
el-Baghdadi 1999; 2003; Hendrickx and van den Brink 2002; EES DS No. 504		35.
Jucha 2011a; EES DS No. 663		36.
Rowland 2011a; 2011b; EES DS No. 639		37.
Zibelius 1978; Kroeper 1989; Wilson 2006; 2011; EES DS No. 13		38.
Breasted 2001; EES DS No. 10		39.
Junker 1928; Kessler 1982; Kroeper 1989		40.
Van den Brink 1987; 1988; Kroeper 1989; Hendrickx and van den Brink 2002	Uncertain whether there was one or two sites with similar name and chronology.	41.
Chłodnicki, Fattovich, and Salvatori 1992a; EES DS No. 572		42.
Jucha 2011b; EES DS No. 735		43.
Rizq (n.d.)		44.
Zibelius 1978; Kroeper 1989; EES DS No. 213		45.
Chłodnicki, Fattovich, and Salvatori 1992a; EES DS No. 337		46.
Scharff 1929; Vernus 1975; Kroeper 1989; EES DS No. 56		47.
Habachi 1957; Zibelius 1978; El-Sawi 1979; Leclant and Clerc 1986; 1987; Kroeper 1989; Bakr 1989; Lange 2006; Lange, Ullmann, and Baumhauer 2016; EES DS No. 220		48.
Leclant 1976; Kroeper 1989; Wilson and Grigoropoulos 2009; EES DS No. 333		49.
Chłodnicki, Fattovich, and Salvatori 1992a; Brewer et al. 1996; Hendrickx and van den Brink 2002; el-Baghdadi 2008; EES DS No. 172		50.

No.	MODERN NAME	ANCIENT NAME	SOURCE	TYPE	CHRONOLOGY
51.	Tell el-Dib'a	Unknown	S	S?	ED, EOK, LOK(?)
52.	Tell el-Dirdir	Unknown	S	S	ED, EOK
53.	Tell el-Abbasiya	Unknown	S	S	ED, EOK, LOK
54.	Tell el-Ain	Unknown	S	S	ED, EOK
55.	Tell el-Akhdar	Unknown	S	S	ED, EOK
56.	Tell el-Baqliya/Rell el-Zragy	*Bꜣḥ* / Hermopolis parva	W?, S	S	ED, EOK
57.	Tell el-Balamun	*Smꜣ-n-bḥdt* / Diospolis Inferior	W, S, E	S	LOK
58.	Tell el-Fara'in	*P, Dp* / *Ḏbꜥwt* / Buto	W, S, E	S	ED, EOK, LOK
59.	Tell el-Farama	*Śnw*	W	S	LOK
60.	Tell el-Fara'in	*Jmt*	W, S, E	S, C	ED, EOK, LOK
61.	Tell el-Farkha	Unknown	S, E	S, C	ED, EOK
62.	Tell el-Gabbara	Unknown	E	S	ED
63.	Tell el-Ginidba / Tell Gandiya	Unknown	S, E	S	ED, EOK
64.	Tell el-Ginn	Unknown	SF, S	C	ED
65.	Tell el-Iswid North / Tell Neshed	Unknown	S, E	S, C	ED, EOK
66.	Tell el-Iswid	Unknown	S, E	S, C	ED, EOK, LOK(?)
67.	Tell el-Khasna	Unknown	S	S	ED, EOK
68.	Tell el-Masha'la	Unknown	S, E	S, C	ED, EOK
69.	Tell el-Murra	Unknown	S, E	S, C	ED, EOK, LOK

REFERENCES	NOTES	No.
Chłodnicki, Fattovich, and Salvatori 1992a; EES DS No. 336		51.
Van den Brink 1988; Kroeper 1989; EES DS No. 563		52.
Van den Brink 1988; Kroeper 1989; EES DS No. 593		53.
Van den Brink 1987; Chłodnicki, Fattovich, and Salvatori 1992a; Hendrickx and van den Brink 2002; EES DS No. 345		54.
Van den Brink 1987; 1988; Kroeper 1989; Jucha 2009; 2012a; EES DS No. 183		55.
Zibelius 1978; Brewer et al. 1996; Hendrickx and van den Brink 2002; EES DS No. 79	Town name known from sources later than the Old Kingdom	56.
Zibelius 1978; Leclant 1979; Kroeper 1989; EES DS No. 148		57.
Zibelius 1978; Kroeper 1989; Faltings and Köhler 1996; von der Way 1997; Köhler 1998; Faltings et al. 2000; Hendrickx and van den Brink 2002; Ziermann 2002; Hartung et al. 2003; 2007; Hartung, Engel, and Hartmann 2012; Hartung 2015; EES DS No. 4		58.
Zibelius 1978		59.
Zibelius 1978; Mustafa 1988; van den Brink 1988; Kroeper 1989; Krzyżaniak 1989; Hendrickx and van den Brink 2002; EES DS No. 187		60.
Kroeper 1989; Chłodnicki, Fattovich, and Salvatori 1991; 1992a; 1992b; Hendrickx and van den Brink 2002; Chłodnicki, Ciałowicz, and Mączyńska 2012; EES DS No. 334		61.
Rampersad 2008; 2015–2016; EES DS No. 685		62.
Van den Brink 1988; Kroeper 1989; Chłodnicki, Fattovich, and Salvatori 1992a; Hendrickx and van den Brink 2002; EES DS No. 182		63.
Fischer 1958; Bietak 1975; Kessler 1982; Kroeper 1989; Krzyżaniak 1989; Hendrickx and van den Brink 2002; EES DS No. 203		64.
Van den Brink 1987; 1988; Guyot et al. 2018; EES DS No. 184		65.
Van den Brink 1987; 1988; van den Brink et al. 1989; Kroeper 1989; Hendrickx and van den Brink 2002; Midant-Reynes and Buchez 2014; Bréand 2015; EES DS No. 594		66.
Van den Brink 1987; 1988; 1993; EES DS No. 561	Site apparently abandoned during the early Old Kingdom and reocuppied during the Middle Kingdom (based.on pottery evidence)	67.
Van den Brink 1987; Kroeper 1989; Abd el-Hagg Ragab 1992; van den Brink 1993; Hendrickx and van den Brink 2002; Rampersad 2003; 2015–2006; EES DS No. 577		68.
Van den Brink 1988; Jucha 2009; 2010; Jucha et al. 2013; 2016; Jucha, Bąk-Pryc, and Czarnowicz 2014; Jucha, Bąk-Pryc, and Małecka-Drozd 2015; EES DS No. 493		69.

No.	MODERN NAME	ANCIENT NAME	SOURCE	TYPE	CHRONOLOGY
70.	Tell el-Shaqafiya	Unknown	S, E	S	ED
71.	Tell el-Yehudiyya	Unknown	S, E	S, C	ED, EOK
72.	Tell el-Retaba	Unknown	S, E	S	ED(?), EOK(?), LOK(?)
73.	Tell el-Rub'a	*ʿnpt* / *Ḏdt* / Mendes	S, E	S, C	ED, EOK, LOK
74.	Tell el-Samarra	Unknown	SF, S, E	S, C	ED, EOK
75.	Tell Gezira el-Faras	Unknown	S	S	ED, EOK, LOK(?)
76.	Tell Gherier	Unknown	S, E?	S	ED, EOK, LOK(?)
77.	Tell Hassanin	Unknown	S	S?	EOK, LOK
78.	Tell Ibrahim Awad	Unknown	S, E	S, C	ED, EOK, LOK
79.	Tell Nishabe	Unknown	S	S?	ED
80.	Tell Samud	Unknown	S	?	ED
81.	Tell Tebilla / Tell Billa	*Rʿ-nfr* / Onuphis	S, E	S	LOK
82.	Tell Umm 'Agram	Unknown	S	S	EOK, LOK
83.	Tell Umm el-Lahm	Unknown	E	C	ED, EOK
84.	Tell Umm el-Zaiyat	Unknown	S	S?	ED, EOK, LOK?
85.	Tida ?	Unknown	SF	?	ED
86.	Tilul Moh. Abu Hasan	Unknown	S	S	EOK, LOK
87.	Wardan	Unknown	S, E	C	ED, EOK, LOK?

REFERENCES	NOTES	No.
Neuffer, Bittel, and Schott 1931; Kroeper 1989; EES DS No. 548		70.
Naville 1887; 1890; Petrie and Duncan 1906; Junker et al. 1930; Porter and Moss 1934; Kessler 1982; Zivie 1986; Kroeper 1989; Hendrickx and van den Brink 2002; EES DS No. 311		71.
Petrie and Duncan 1906; Neuffer, Bittel, and Schott 1932; Kroeper 1989; Hendrickx and van den Brink 2002; EES DS No. 219	No *in situ* remains older than the First Intermediate Period (Goedicke 1986: 353; J. Hudec, Slovak–Polish expedition currently examining the site, personal communication)	72.
Hansen, Soghor, and Ochsenschlager 1967; De Meulenaere and MacKay 1976; Zibelius 1978; Holz et al. 1980; Kessler 1982; Kroeper 1989; Friedman 1992; Brewer et al. 1996; Wenke and Brewer 1996; Hendrickx and van den Brink 2002; Adams 2009; 2019; Redford 2010; 2019; EES DS No. 178		73.
Kessler 1982; Kroeper 1989; Krzyżaniak 1989; Chłodnicki, Fattovich, and Salvatori 1992a; Brewer et al. 1996; el-Baghdadi 2008; Hendrickx and van den Brink 2002; Guyot 2016; EES DS No. 175		74.
Van den Brink 1987; Chłodnicki, Fattovich, and Salvatori 1992a; Hendrickx and van den Brink 2002; Jucha 2009; 2011a; 2011b; 2016; EES DS No. 351		75.
Van den Brink 1987; 1988; Kroeper 1989; Hendrickx and van den Brink 2002; Jucha 2009; 2016; EES DS No. 575		76.
Van den Brink 1987; 1993; Jucha 2016; EES DS No. 573		77.
Van den Brink 1988; 1989; 1992; Kroeper 1989; van Haarlem 1996; 1998; 2000; Eigner 2000; Hendrickx and van den Brink 2002; EES DS No. 535		78.
Neuffer, Bittel, and Schott 1931; Kroeper 1989; Hendrickx and van den Brink 2002		79.
Neuffer, Bittel, and Schott 1931; Kroeper 1989		80.
Brewer et al. 1996; Mumford 2001; 2002; Mumford (personal communication); EES DS No. 156	Ancient name known from the Middle Kingdom on	81.
Van den Brink 1988; 1993; EES DS No. 568		82.
Rizq (n.d.); Chłodnicki, Fattovich, and Salvatori 1992a; EES DS No. 162		83.
Van den Brink 1988; 1993; Kroeper 1989; Chłodnicki, Fattovich, and Salvatori 1992a; Hendrickx and van den Brink 2002; Jucha 2016; EES DS No. 344		84.
Porter and Moss 1934; Kroeper 1989		85.
Van den Brink 1988; Kroeper 1989; EES DS No. 574		86.
Junker 1928; Larsen 1957; Kessler 1982; Kroeper 1989; Hendrickx and van den Brink 2002		87.

excluded this region, encompassing the 1st nome and the southern part of the 13th nome,[2] from further analysis. A few settlements previously not included were added to the list. For the sake of clarity, the credibility of individual sites was not considered this time around. Thus, the number of sites examined was narrowed down to 87,[3] and all of them were treated as equally reliable, both in terms of location and chronology. Although chronology continued to be an important factor in a detailed analysis of settlement distribution, the emphasis was placed on the location of individual sites and their clusters rather than their dating.

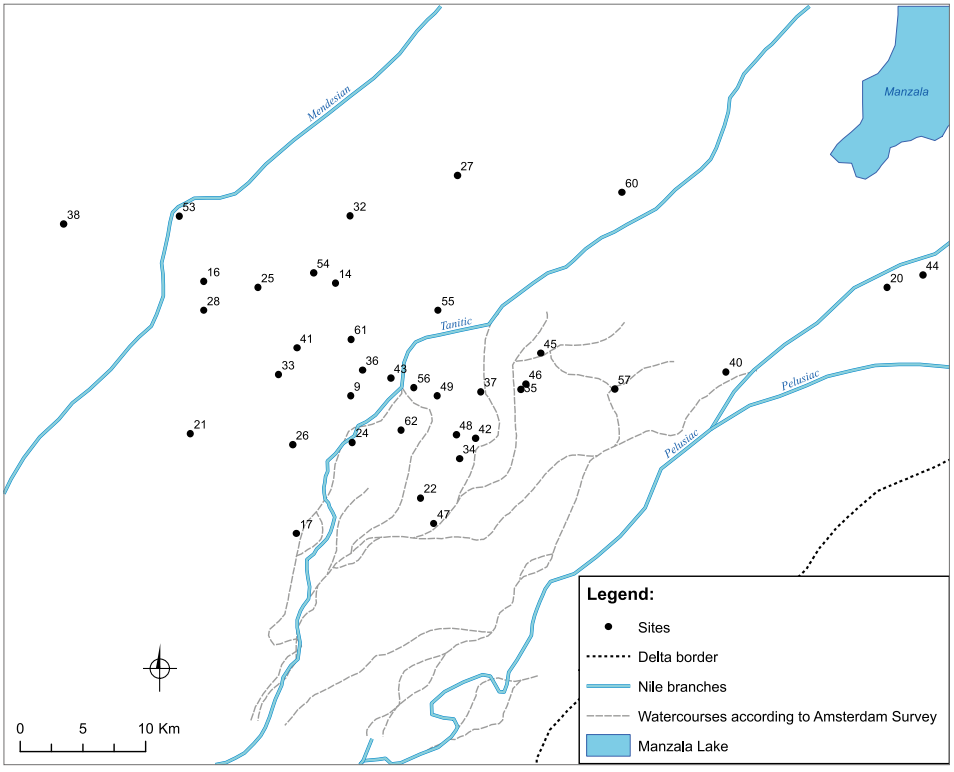

Fig. 2. The northeastern Nile Delta during the Early Dynastic period (After Bietak 1975: Fig. 25 and van den Brink 1992: Fig. 6 | drawing N. Małecka-Drozd)

2 E.g. clusters of worker settlements and other special purpose sites (see Moeller 2016: 20–25, 117–156) related to construction projects in the Memphis necropolis. With time, some of these settlements merged with the capital city, forming an agglomeration that took on the name of the pyramid city of Pepi I (Zibelius 1978: 93–95).

3 Tell Tennis is one of the excluded sites. Given the recent shoreline reconstruction in this part of the Delta, it is not possible for such a site to have existed there in the 3rd millennium BC. Early archaeological material found there should be classified as transferred from another location (see Małecka-Drozd 2020: Table 1, Fig. 1).

Sites known only from written records were added to the invetory. This part of the database was based on the published work of Karola Zibelius (1978) and Karla Kroeper (1989), listing several dozen sites known from written sources. Of these, 71 may have been in Lower Egypt and have yet to be located. Among them, 19 sites should be located outside the Nile Delta proper (in the Memphite area) or a convincing location has yet to be suggested. Ultimately, 52 sites were considered, eight of these in the general region of the Nile Delta, 21 with a more specific location in the eastern or western Delta, and 23 in a specific nome or near another well-known locality [*Table 2*]. Assuming that these toponyms are independent entities not to be associated with any of the known archaeological sites, the list of sites from the Early Dynastic and Old Kingdom periods within the Nile Delta grew to a total of 139 sites.

SITE DISTRIBUTION

Considering only the archaeologically confirmed sites, settlement distribution in the Nile Delta was extremeley uneven throughout the 3rd millennium BC [see *Fig. 1*] (see Małecka-Drozd 2020: Figs 1, 3, 5). Two regions can be distinguished as the most densely populated: the northeastern Delta roughly between the lower Pelusiac and the Mendesian branches of the Nile (see Małecka-Drozd 2020: Figs 2, 4, 6), and the southwestern Delta, that is, the area along the upper part of the Canopic branch of the Nile (today's Rosetta) and the western edge of the floodplain. An evident clustering

Table 2. Unlocalized toponyms in the Nile Delta

APPROXIMATE LOCATION	TOPONYM
Nile Delta in general	*Tˁt-mn(?), ˁḏ3, W-bitj, Ḥwwt, Ḥḏbt, Ḫ3(b)ś, Štp(t), T3it*
Western Delta	*Ttj-wj3w(?), Ḏr, Knmwt, Ḥ3mw, Ḥwt-wrw, Njwt-šw, Nrw-t3wj, Śḏr, Śt(r)t, Štpt*
Eastern Delta	*Tpwt, Td3, Wˁrt-nt-ḥr-nb-m3ˁt, Wnt, Wnt mḥ(t)(?) jw mḥtj(?), Ḫn-śḏrw, Srr, Jj-(m)-http, Ś3t, Tp3*
2nd nome	*Mrj-Bˁw-iwnw-Nfr-ik-k3-Rˁ, Ḥwt-nṯr-nt-Śnfrw*
Letopolis area	*Ddnw, Śb(i)wt*
3rd nome	*Prw-m3nw, Śb3 ḥr ḫntj pt*
7th nome	*Ḥwt-ḥn (?),ˁrq-int*
Damanhur area	*Wnw*
6th nome	*Śḫmw, Qdm*
Buto area	*3wrt, 3ḫbjt-(nt-ḥr), Ns3t*
9th nome	*Ḥwt snj, Grgw.b3.f*
12th nome	*R3-wr*
13th nome	*Sw*
Heliopolis area	*Iwsˁ3ś, Ḥtpt*
8th nome (Wadi Tumilat)	*Ḥwt-smitj, Km wr*
16th nome	*Ś3ḫt B3, Štwj*

of sites from the Early Dynastic period is to be recognized in the western part of Wadi Tumilat; it seems to disappear later on. The northwestern Delta, that is, the area between the lower part of the Canopic branch of the Nile and the Buto–Xois area, is less populated, but it appears that it can be distinguished as a separate settlement subregion. The central Delta, that is, the area along the Sebennytic and Fatmetic branches of the Nile (today's Damietta) seems to be quite sparsely populated, and only in the later Old Kingdom. The settlement network in the southeastern Delta, along the upper part of the Pelusiac Nile, is sparse but stable throughout the 3rd millennium BC. Even so, the northern Delta appears to be much more densely populated than the southern part of the region. The vast settlement emptiness in the central and central-western part of Lower Egypt, east of the middle reaches of the Canopic branch of the Nile, is equally noteworthy.[4]

The overall picture changed once the sites that have not been located

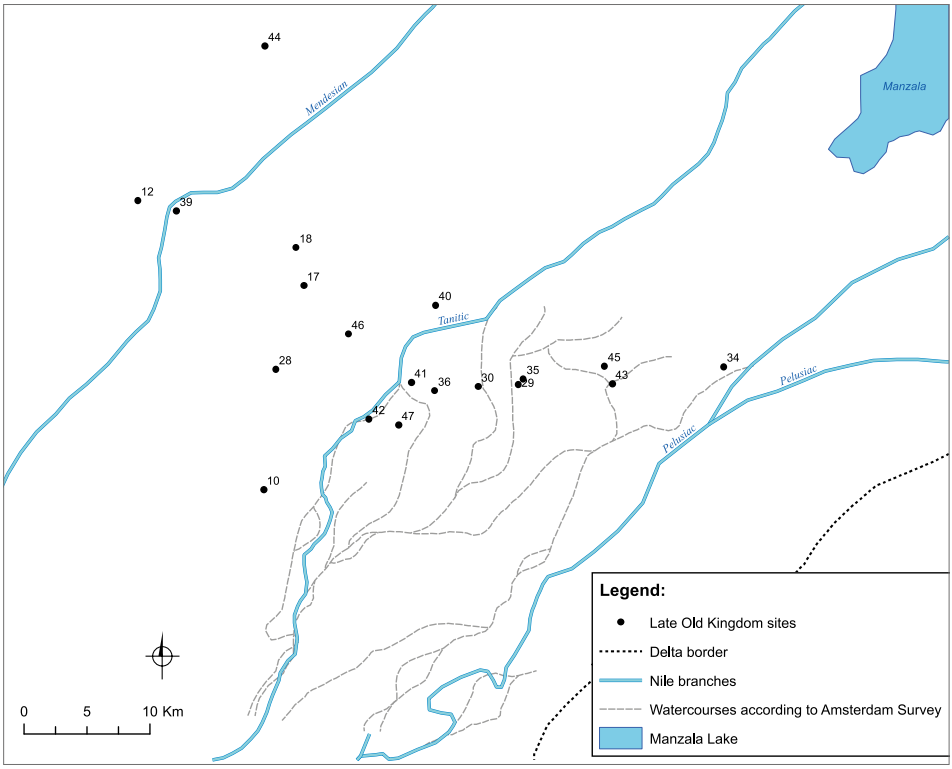

Fig. 3. The northeastern Nile Delta during the late Old Kingdom (After Bietak 1975: Fig. 25 and van den Brink 1992: Fig. 6 | drawing N. Małecka-Drozd)

4 Surveys carried out in this area (Rowland and Billing 2005; Rowland 2007; Rowland et al. 2009; Rowland and Spencer 2011) confirmed an almost complete absence of sites dated to the Old Kingdom, Quesna excluded.

were added. Based on suggested approximate locations (see Zibelius 1978; Kroeper 1989), 44 toponyms were subdivided into three categories: those in the Western Delta (including the 2nd, 3rd, 4th/5th, 6th and 7th nomes of Lower Egypt[5]), those in the Central Delta (9th, 10th, 11th, 12th and 15th nomes of Lower Egypt) and those in the Eastern Delta (8th, 13th, 14th and 16th nomes of Lower Egypt, as well as the so-called Eastern Nome) [*Table 2*]. Most of the 24 toponyms located in the Western Delta should be linked with the northwestern region: five in the Buto area or, more generally, the 6th nome of Lower Egypt, two in the 3rd nome of Lower Egypt and two reported in context with the 7th nome (Harpoon Nome). Four localities are placed on the southwestern fringes of the Delta, in the 2nd nome of Lower Egypt or near Kom Ausim/Letopolis. The remaining 10, however, cannot be located more precisely. Just three toponyms are located in nomes in the central Delta: two in the 9th nome and one in the 12th. In the eastern Delta there were 17 settlements, most of them ascribed to the southeastern Delta: two sites most certainly in the Wadi Tumilat region (8th nome) and three others in the Heliopolitan (13th) nome. Only two settlements were located undoubtedly within the northeastern cluster of sites, that is, in the 16th nome of Lower Egypt. The remaining ten sites are not precisely located, but at least some of them should perhaps be linked to the fortified posts on the outskirts of the eastern Delta (*Wnt, Srr, Id3*; see Zibelius 1978).

Clearly, the number of localities still not placed is higher in the western Nile Delta. When the two categories, archaeological sites and localities known from written sources, are considered together, the generally less urbanized condition of the western Nile Delta becomes evident, and the scale of recognition of archaeological sites there is much smaller. Even so, several regularities can be observed. For one, a trend toward higher population density can be confirmed for the upper reaches of the Canopic Nile, in the 2nd nome of Lower Egypt. Then, the Buto region appears to be archaeologically underestimated, considering the fairly large number of settlements reported from this area. Last but not least, a fairly loose settlement cluster can be observed in the extreme northwestern part of the Delta, which was part of the 3rd and 7th nomes of Lower Egypt. It is possible that at least some of the toponyms which cannot be located more precisely should be assigned to this part of the Delta, that is, some vineyards or agricultural estates (e.g. *Śt(r)t*).

The situation in the Eastern Delta is more problematic. In general, the large number of localities confirms a high population density. However, it turns out

5 References to nomes are quoted after Zibelius 1978 and Kroeper 1989. In view of the uncertainty of the administrative boundaries of the Delta provinces, the division proposed by Wolfgang Helck (1974) was generally adopted, taking into account some of the comments by Manfred Bietak (1975: 149–160) on the role of rivers as stable boundaries in the Lower Egyptian nomes. Therefore, the 8th nome is classified conventionally as an Eastern Delta province, located in the Wadi Tumilat area, and the 11th nome is counted in the central Delta, setting the eastern border on the Tanitic branch of the Nile.

that most of the localities reported in the written sources, at least those that can be localized to some extent, do not fall within the most densely populated area between the lower reaches of the Mendesian and Pelusiac branches of the Nile, but rather in the semi-arid area along the eastern and especially the southeastern fringes of the Delta. Wadi Tumilat is an interesting case in point. Archaeological data indicate the disappearance of sites in this part of Lower Egypt after the Early Dynastic period (Małecka-Drozd 2020: Figs 3, 5). However, written sources confirm further settlement during the Old Kingdom, and some toponyms are located as far east as the area of the Bitter Lakes or Suez (Zibelius 1978). As for the northeastern cluster, only two toponyms (*Śꜣḥt Bꜣ* and *Štwj*) can be ascribed to the region for sure, even though it should not be ruled out that some toponyms that have yet to be located precisely could actually be assigned to this particular region. This may be an indication that the potential for locating new sites in this area has largely been exhausted, and new sites should be sought further south.

Finally, references to the central Delta, whether archaeological or written, are rare. It could mean that this area was not highly urbanized in the Old Kingdom.

ENVIRONMENT

GEZIRAS AND LEVEES SUPPORTING SETTLEMENT CLUSTERS

Considering site distribution patterns in light of Delta topography and the environmental changes taking place over two millennia, in the 4th and 3rd millennium BC (Pennington 2017; Pennington et al. 2017), one can observe two main regularities. The first is the correlation of the location and, to some extent, the shape of individual settlement clusters with the estimated range of the *geziras* and levees rising above the alluvial plain. These were the main areas supporting permanent settlement (Butzer 1976: 15–17).

The actual range of the *geziras* in the discussed period was much smaller than initially assumed (Butzer 1976: 25, Fig. 4; 2002: 95, Fig. 4.5). Nevertheless, at least some of the settlement clusters from the middle of the 4th millennium BC, mainly those in the northern Delta, were established on the relatively large, sandy uplands of the Paleodelta [*Fig. 4*]. Over time, with the evolution of the alluvial plain into a "meandering" landscape (Pennington et al. 2017: 225–226; Bunbury 2019: 95–96), the range of these hills gradually diminished [*Fig. 5*]. However, taking into account that at least some of the sites, which were dated to the Early Dynastic or early Old Kingdom period based on surface finds or written sources, actually have a much older settlement history, it can be assumed that their specific location is a reflection of the primary reach of the *gezira*. These were the only places to provide sufficient safety for settlements established in an area characterized by a marshy and dynamic alluvial plain of the "large-scale crevassing" type, which dominated in the northern Delta for most of the 4th and the early 3rd millennia BC. In general, settlement clusters associated with the *gezira* fields have a more concentric or irregular arrangement that stands in contrast to the

linear one typical of levee-based systems (see below). This correlation is most clearly visible in the Buto–Xois area and in the region of the 3rd and 7th nomes in the northwestern Delta [*Figs 4, 5*].

However, the remarkably high density of settlement in the northeastern Delta can be related to the original range of these sandy hills only to a certain extent. This concerns mainly the eastern part of the cluster, which is located in the basin of the Tanitic branch of the Nile, its distributaries and the lower course of the Pelusiac branch of the river. Further west, settlement continues, albeit in sparse form, beyond the estimated range of the *geziras* [see *Figs 4, 5*]. Taking into account the results of geomorphological research in Mendes (Redford 2010: 2, Fig. 1.1) and the linear arrangement of the sites located in this part of the cluster, it can be assumed that they followed primarily the levees of the Mendesian Nile and its branches (El-Mahmoudi et al. 1998: 19–21, Fig. 12; 2009: 228–229, Fig. 17; see El-Mahmoudi and Gabr 2009: Fig. 18; Ullmann et al. 2019: 196–197). While the *gezira* stretches quite far to the south and east beyond the Pelusiac branch of the Nile, the region clearly offers no sites with a long, verified settlement history with the exception of Tell el-Fara'on (Tell Nebesha) and the Early Dynastic settlements at Tell el-Ginn and Minshat Abu Omar.[6] Therefore, based on the archaeological finds, one should consider the lower section of the Pelusiac branch of the Nile as the actual eastern border of compact Egyptian settlement in Old Kingdom times (see Bietak 1975: 107; van den Brink 1993: 294).

A similar reservation can be made for the southwestern cluster. In this case, only its southern part, the area of Letopolis, seems to cover the range of the recognizable *gezira* field. Settlements further northeast, arranged in a highly linear pattern, would be related to the levees of the mighty Canopic branch of the Nile. Moreover, in this part of the southern Delta, topographic conditions are particularly similar to those of the Nile Valley: the Canopic branch of the Nile flows close to the western border of the alluvial plain, which offered already in the 4th millennium BC conditions that were much more stable and drier than further north. Local topography also enabled the use of low desert terrain for settlement and cemeteries, following the same basic patterns as in Upper Egypt.

No settlement clusters, whether circular or linear, have been recognized in the central Delta, namely the lands located along the Sebennytic branch of the Nile and its branches [*Figs 1, 4, 5*]. This river, covering the lower and middle section of today's Damietta, was referred to in Egyptian sources as the Great River (Bietak 1975: 121–125) and it remained the most powerful Lower Egyptian river throughout antiquity (Stanley and Warne 1993: 631, Fig. 5c; Stanley, Warne, and Schnepp 2004: 922–928). It should have created extensive, habitable levees, but there are almost no Early Dynastic and Old Kingdom settlements along its banks. Of the known sites, ancient Busiris and Tell

6 Another possibility is that some of the settlements known from the written sources were located in this area.

el-Balamun, both of which are located further down the river (near the mouth of the Fatmetic branch), appear to have been established on a geomorphological form of precisely this type. However, neither site has been confirmed before the late Old Kingdom [see *Table 1*]. Perhaps in the earlier period, the low levees (1–3 m according to Butzer 1976: 16) were not safe enough for settlement in the dynamic and wet environment of the northern Delta. The fact that the oldest known settlements in this area, Behbeit el-Hagar on the Fatmetic branch and Quesna on the upper course of the Great River, are associated with small *gezira* fields supports this idea. It cannot be ruled out that there were originally more sites in the 9th nome, since most of the sandy islands in this part of the Delta are in this region. However, the sedimental output of the river has left them presumably covered by several meters of alluvium and unrecognizable. The northern part of this area was devoid of natural hills to enable settlement on a larger scale. Moreover, vast swamps existed there deep into the historical period, e.g., *Pḥw-n-bḥdt*, [*Š3-ws*] *F3t* or *Š3-mnjjt* (Gomaà 1987). This may suggest low settlement density for the period in question.

SETTLEMENTS AND RIVERS

The proximity of a river was the next essential element determining site location. Geoarchaeological research (Andres and Wunderlich 1992; Hartung et al. 2009: 172–181; Redford 2010: xviii; Pawlikow-

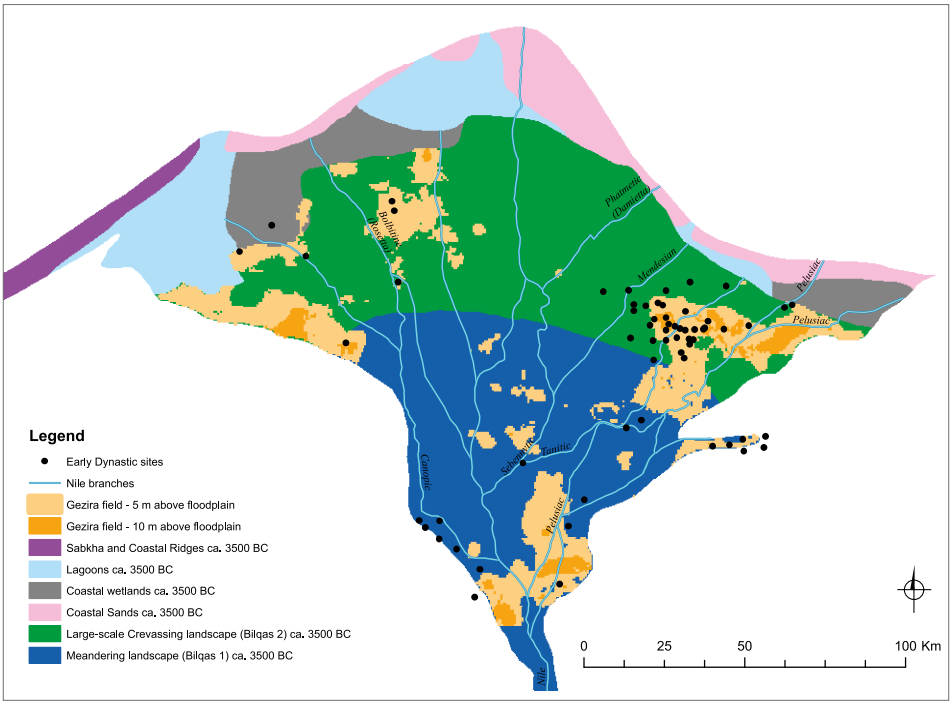

Fig. 4. Distribution of Early Dynastic sites in the context of topographic conditions in the mid-4th millennium BC (Courtesy of B. Pennington; after Pennington et al. 2017: Fig. 12c)

ski and Wasilewski 2012; Buck 2016: 70) confirms that the most desirable location for settlement was the edge of a *gezira* or levees, as close as possible to the local watercourse (see Małecka-Drozd 2021). It appears that the large number of watercourses was one of the main reasons for a high settlement density in the northeastern Delta. The anastomizing nature of the closely related Tanitic and Pelusiac branches, the main rivers in the region, continued for a long time (Bietak 1975: 99–106, 125ff., Figs 9–10; El-Mahmoudi et al. 1998: 12–15, Fig. 7; El-Mahmoudi and Gabr 2009: Fig. 18; Ullmann et al. 2019: 197–197, Figs 4–5), this despite the stabilization of individual rivers in the Delta and the evolution of the alluvial plain toward a well-drained plain with a "meandering" landscape, both processes progressing through the 4th and 3rd millennia BC (Pennington 2017: 202–208; Pennington et al. 2017: 225–226). Numerous branches and secondary channels connected the two rivers and the westernmost Mendesian branch of the Nile, linking the various parts of this microregion. The mosaic of sandy islands, navigable watercourses and perennial marshes (de Wit 1993: 313–316), as well as growing arable lands, made this region attractive for settlement. It also seems that, contrary to earlier findings (Bietak 1975: 99–112; van den Brink 1993: 290–297), it is possible to confirm the occupation of sites on each of the Nile branches flowing through the area for the entire period in question (see Mendes, Hamsa and Tell

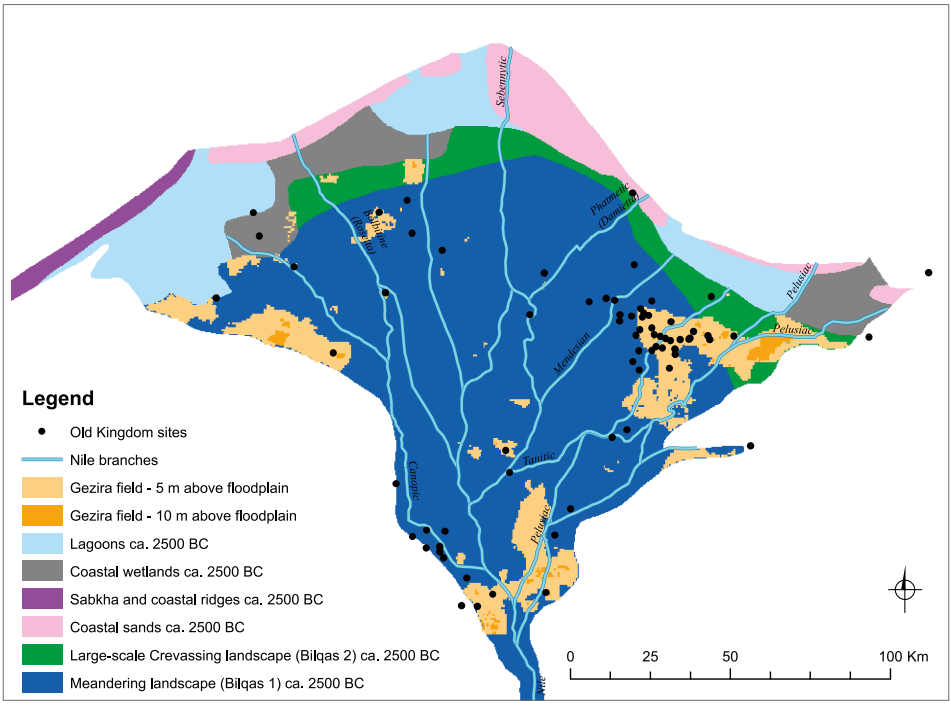

Fig. 5. Distribution of Old Kingdom sites in the context of topographic conditions in the mid-3rd millennium BC (Courtesy of B. Pennington; after Pennington et al. 2017: Fig. 12d)

Tebilla on the Mendesian; Kufur Nigm, Tell Ginidba, Tell Gherier, Tell Gezira el-Faras and Tell Umm el-Lahm on the Tanitic; and Bubastis, Tell el-Fara'in, Tell Ibrahim Awad and Tell Ginn on the Pelusiac). Therefore, the gradual dilution of the said cluster (see Małecka-Drozd 2020) may be related not so much to the silting up of the Tanitic branch of the Nile and its being taken over by the Mendesian,[7] but rather to the gradual disappearance of the smaller watercourses and branchings of each river related to progressive climate changes and the evolution of the Delta towards a "meandering" landscape of single river channels (Pennington et al. 2017: 225–226; Bunbury 2019: 94–96).

The extent of the *geziras* was not the only factor determining a stable and dense settlement network. The southern and southeastern Delta are the best examples. Even in the middle of the 3rd millennium BC the area between Heliopolis and Athribis was covered by vast sandy hills, and was crossed by a Pelusiac branch and a few tentative secondary watercourses (e.g., Canal of Heliopolis; see Bietak 1975: 109, 126–127). In the middle Holocene, however, this area stayed above flooding level for quite a long time, and the alluvial plain that started to accumulate relatively late was of a "meandering" type at once (Pennington et al. 2017: Fig. 12) [see *Figs 4, 5*]. The few settlements attributed to this region could be clustered along the upper stretch of the Pelusiac branch and its tributaries (vide Heliopolis, perhaps Tell el-Yehudiya further north, see Redmount 1995: 135; Cooper 2009: 198–203), this because the area was not attractive to sedentary farmers (see below).

Finally, the gradual desiccation or substantial decrease in the flow of the branch of the Nile that used to run through Wadi Tumilat (Redmount 1995: 134; Hassan 1997: 68) may explain to some extent the decline in settlement density in this area after the Early Dynastic period. It is not to be ruled out that the lake occupying a vast depression in the western part of Wadi Tumilat, which would have been the focal point for early settlement, either decreased in volume or dried up in the 3rd millennium BC. Mentions of fortresses or outposts from the Old Kingdom period concern sites located further east, in the area of the Bitter Lakes (Zibelius 1978: 63, 202, 244; see Somaglino 2010: 6), while there is no undisputed evidence (in either archaeological or written sources) of a continuation of settlement on the previous scale in the western part of the area.

ECONOMIC POTENTIAL

RESOURCES

The Nile Delta is, apart from Wadi Natrun near its western edge, devoid of any natural raw materials. Therefore, the main economic resources produced here were plants and animals, the former harvestable or cultivated, the latter either bred or hunted. Thus, areas with the highest settlement density were naturally those with the greatest environmental

7 The settlement network in the western part of the cluster seems to have been sparser than further east throughout this period.

diversity. This applies above all to the northeastern Delta. The area was a mosaic of sandy islands situated quite close together, perennial swamps and lakes, and above all a network of smaller and larger watercourses fertilizing the evolving alluvial plain (de Wit 1993: 313–316). The opportunities coming with such a diverse and rich environment are amply confirmed by the results of archaeobotanical (van Zeist 1988; de Roller 1989; 1992; Thanheiser 1992; Emery-Barbier 2014; Kubiak-Martens 2012) and archaeozoological studies (Boessneck and von den Driesch 1988; 1992; van den Brink et al. 1989; Abłamowicz 2012; 2016; Makowiecki 2012; Lesur 2014). The inhabitants of this part of the Delta grew barley, wheat, legumes, flax, and forage. Horticulture was of some importance, and vineyards were significant in the eastern part of the region (Butzer 1975: 1049; Zibelius 1978: 37, 211). The supply of available plants was supplemented by gathering. The principal breeding species was pig, supplemented with sheep/goats and cattle, although the latter seem to have been reared in some locations specifically for the needs of a given social group (Abłamowicz 2012: 412–416). Fish, mollusks and other aquatic animals also played a large part in the diet, and their economic importance may have been greater in wetter areas like the 16th nome of Lower Egypt where the emblem of the province even reflected it, as did the original cult of the fish goddess ***Ḥ3t-mḥjt*** (Gomaà 1987: 245–251; Redford 2010: 14). These resources were supplemented by hunting and fowling.

As for the second most densely populated area, the southwestern Delta, there is no archaeological evidence of economic activity. The symbol of the 2nd nome of Lower Egypt (Helck 1974: 151) suggests that cattle breeding could have played a role here, a suggestion supported by the proximity of the forested steppe landscape on the desert fringe (Moreno García 2015: 73–74). It is possible, however, that the province was important chiefly for its role as an intermediary on the herding routes, rather than an actual breeding place (see below). Pierre Montet (1957: 49–56) and Hermann Kees (1961: 32, 92) suggested also fishing and fowling in the swamps, which could have existed in greater numbers at the edge of the Delta (see Butzer 1976: 15–16; Bunbury 2019: 60–61) and in the uninhabited area between the Canopic and the Sebennytos branches of the Nile.

Much more information is available about the northwestern Delta, the third most densely populated region. A diverse environment is evidenced by the combination of vast *geziras*, forested in the western part, passing into semi-arid and desert areas, a well-watered floodplain and—in the north—extensive lakes, lagoons and coastal marshes (Moreno García 2015: 71–74; Buck 2016). Archaeobotanical (Moens and Wetterstrom 1988; Thanheiser 1991; Wetterstrom and Wenke 2016) and archaeozoological data (Redding 2013; 2016) point to the cultivation of well-known cereals, legumes or flax, as well as pig and sheep/goat farming being the main source of income of the sedentary population. Cattle breeding was particularly widespread in the northwestern Delta as attested both by archaeobotanical studies as well as iconographical evidence (emblem of the 6th nome; see Helck 1974: 163) and local toponyms (name of the 6th nome

Ḫ3sww translated as "bovine mountain" or "mountain bull"; see Helck 1974: 163; for *Ḥwt jḫ(w)t* as "*ḥwt* of the cows" see Zibelius 1978: 150). However, it appears that this section of the local economy was important mainly as a resource intended for export (Redding 2013) and the main source of livelihood of the mobile population living in this area (Moreno García 2014; 2015: 84–86; 2018). In the 7th nome of Lower Egypt on the northern outskirts of the region, fishing remained a livelihood throughout historical times (Montet 1957: 73–74). Finally, the northwestern Delta was also an important wine region (Montet 1957: 66; Butzer 1975: 1049; Thanheiser 1991: 40), with a large proportion of the vineyards being located there (Zibelius 1978: 148, 223, 268), as well as one of the main logging areas in Egypt (Moreno García 2015: 73–84).

The much less populated parts of the Delta were situated in areas with the greatest abundance of water as well as in the driest. The former covered mainly marshy areas located at the confluence of the Sebennytic and Fatmetic branches of the Nile, and also presumably areas between the upper and middle reaches of the Canopic and Sebennytic branches [*Figs 4, 5*]. The symbol of the 12th Lower Egyptian nome could indicate a similar import of cattle breeding as in the neighboring provinces, but there is no material evidence of it. Once again, the tradition of herds being driven to wet pastures during the winter months could have stood behind the iconography (Brewer, Redford, and Redford 1994: 86). Later sources indicate the important role of horticulture, fisheries and sheep grazing (Montet 1957: 115–116, 140–142, 151; Butzer 1975: 1049).

The extensive sand elevation in the southern and southeastern part of the Delta, gradually passing into smaller *gezira* fields further north and northeast, was the second least populated area [see *Figs 4, 5*]. The southeastern fringes of this region, part of the 13th nome of Lower Egypt, were a semi-arid border area, a popular starting point for hunting forays (Montet 1957: 170; Butzer 1975: 1050). Trade with the Sinai Peninsula and the Levant also played a role as a source of income here (see below; for the roots of the name of Bubastis see Zibelius 1978: 76; Lange 2016: 310–320). Further north and northwest the *gezira* field diminished and the landscape become more varied. West of the Pelusiac Nile, breeding, mainly of cattle, could have been of great importance as suggested by the emblems of the nomes (the 10th and 11th nomes have images of cattle as their symbol), local toponyms (name of the 10th nome *Km wr* "big black" and that of its capital, Tell Athrib, or *Ḥśbw* "slaughtered" for the 11th nome; Helck 1974: 175–177), and numerous representations in Old Kingdom graves (Klebs 1915: 60; Butzer 1975: 1049) as well as in later sources (Montet 1957: 94–95).

ROUTES

Routes were an important factor shaping the settlement network in the region. For most of the historical period, the course of the major rivers determined the principal axis of movement: north–south or more properly, northwest–southeast and northeast–southwest. Settlements on the main navigable watercourses of the region became the most important centers, e.g., Buto, Mendes or Bubastis. The findings

from Buto (Faltings 1998) have shown that cities located downstream on the rivers, especially in the western part of the Delta, far from the land routes (see below), could have been a convenient starting point for the sea routes in the earliest times, being safe harbours hidden away in the marshes and lagoons. Therefore, it is suprising not to find any centers of this kind from before the Old Kingdom on the most navigable river in the region, the Great River. It could be because the marshy region without the *geziras* was not conducive to settlement (see above).

Movement along the east–west axis, especially in the northern Delta, was hampered by natural obstacles in the form of multiple watercourses and swamps that still stretched extensively during the 3rd millennium BC. The route gained in importance on a major scale in the Ptolemaic period with the digging of the so-called Butic Canal, which is a waterway connecting the lower secions of all of the Nile branches in the Delta (Bietak 1975: 92–93, Fig. 43). Earlier, travel was either conditioned by the current availability of local branches connecting individual rivers, or limited to short stretches within the local *gezira* fields suitable for donkey caravans. In this context, the region of the northeastern Delta was exceptionally privileged, with a landscape combining a multitude of anastomosing river routes, as well as vast areas elevated above the level of the alluvial plain. Assuming it is not a reflection of the state of research, a clearly east–west arrangement of some sites (van den Brink 1993: 290ff., Figs 6–7) [see ***Figs 2***, *3*] could mark the course of such a route in this part of the Delta. It would have continued eastward in all likelihood, beyond the Pelusiac branch of the Nile and toward the Qantara Isthmus, from where it started as the Way of Horus to the southern Levant (Oren 1973; van den Brink 1993: 295–296, Fig. 8; see below). It remains an open question whether similar routes could be suggested for the northwestern Delta, the Buto–Xois and Lake Moeris areas, given the very limited range of the *geziras* at the end of the 4th and the beginning of the 3rd millennium, and the generally sparser settlement network [see ***Fig. 1***].

The main land route connecting the eastern and western fringes of Lower Egypt, and further afield respectively, the Levant and Libya, skirted the Delta, following a course safely above the flood plain and crossing the area of its apex in the Memphite region. The description of the journey of Sinuhe stands in confirmation. From Wadi Natrun the road headed south instead of directly east, crossing the Nile near Memphis and running northeast to Wadi Tumilat and further to the Bitter Lakes (Goedicke 1957). The route was regularly used by moving shepherd groups, driving their herds from Libya and the uplands of the northwestern Delta to the Nile Valley and further east, and mediating trade between remote regions (Moreno García 2017: 89–93). In the southwestern Delta, its course largely coincided with the existing waterway of the Canopic and so-called Alexandrian (Goyon 1971; Buck 2016: 58; Trampier 2017: 219) branches of the Nile, running near the western edge of the floodplain. The location along two major north–south routes, coupled with favorable topographic conditions and access to local resources (the proximity of Wadi Natrun), could be one

of the explanations for a higher density of settlement in this part of the Delta.

The situation along the southeastern fringes of the Delta is different. The sites identified there are limited to a few locations on the upper stretch of the Pelusiac branch and its distributaries. The topographic conditions (wide tracts above the floodplain) and the prevailing type of economy (see above) could have given rise to a more dispersed settlement pattern. A denser settlement network does not appear until further north, in the wetter areas, and is related to places that the Egyptians themselves referred to as "gates" to foreign lands (Somaglino 2010: 3, 6). The first of these is Wadi Tumilat, which is a natural route toward the Bitter Lakes, the Gulf of Suez and the Sinai Peninsula beyond that. Sites there included mainly an Early Dynastic cluster in the western part of Wadi Tumilat and perhaps a later group of fortresses further to the east, as well as a pair of sites, Bubastis and Beni Amir, located some distance to the west but on the axis of this route. Further north, one finds the already mentioned Qantara Isthmus, from where the coastal trail, the Way of Horus, ran all the way to the southern Levant (van den Brink 1993: Fig. 8). In this area, written sources indicate the presence of several sites (two identified as Tell Abu Seifa and Tell el-Farama). To the west of the Isthmus, located at a certain distance, as if "hidden" behind the Pelusiac branch of the Nile, is the largest, northeastern settlement cluster [see *Fig. 1*].

HIERARCHY OF SITES

EVALUATION CRITERIA

A credible hierarchy of sites in the Delta over the Early Dynastic and the Old Kingdom periods is problematic at best. One can distinguish sites higher in the hierarchy at a given moment, but it is usually impossible to précise relations between them. This is because, despite decades of research in the region, knowledge about the size, type of buildings and functions of most settlements continues to be limited. Remnants of urban architecture have been exposed at only ten out of the 87 identified sites (Małecka-Drozd 2020), and actual assessment of a given settlement's status is possible in only a few cases.

Buildings of *ḥwt* or *swnw* type, which could be directly related to administrative function, have been discovered at four sites: Bubastis, Buto, Tell el-Farkha, and Tell Ibrahim Awad [*Table 3*]. The building at Tell Ibrahim Awad (Leclant and Clerc 1991; van den Brink 1992: 52), which, judging by the scale, was associated with management on a local level, fell into disuse at the very beginning of the historical period, and so far there is no evidence of a continuation of this function elsewhere on the site. The huge administrative–cultic center at Tell el-Farkha (Ciałowicz 2009; 2012: 171–180) was also destroyed at the beginning of the First Dynasty, but this did not mean the end of the settlement's role as an administrative center, although probably on a lower level. Administrative buildings—this time of the *swnw* type—were moved to another part of the settlement (Chłodnicki 2014: 66–68, Fig. 9; Chłod-

nicki and Mączyńska 2018: 88–90). Buto continued to be an important administrative and production center until the end of the Early Dynastic period, when the local palace (Hartung 2017; 2018) was destroyed. Nothing from later times evinces a continuation of this role. In Bubastis, a building that meets the criteria of a *ḥwt*-type building is dated to the early Old Kingdom (El-Sawi 1979: 74–75). Later, the role of the city as an administrative center seems to grow, and the architecture associated with functions of this kind becomes more diverse. The *ḥwt-kȝ* complexes (Lange 2006: 122–124; Lange-Athinodorou and el-Senussi 2018: 21–23) of two rulers and presumably a palace-type structure (Bietak and Lange 2014: 7) emerge.

Regarding architectural indications of a site's role as a cult center, remains of temples associated with nationwide cults are known from two sites: Mendes (Redford 2010: 23; Adams 2019: 56–57) and Bubastis (Lange 2016: 310–316; Lange, Ullmann, and Baumhauer 2016: 378–379). Temple remains related to the worship of the royal Ka are found at the latter site, although a Bastet temple should also have existed there, at least during the late Old Kingdom. A temple of an unknown deity at Tell Ibrahim Awad, functioning through the beginning of the Middle Kingdom, was rather of local significance (see Małecka-Drozd 2021), giving the site a lower level in the hierarchy.

The issue is supplemented to an extent by findings from cemetery sites indicating the social status of a local population. Of the 87 sites, 42 were recognized as cemeteries, but only 28 were ever excavated. Of these, only about a half has yielded a larger number of burials or has been published in a comprehensive manner [see the references listed in *Table 1*]. Another major problem is the chronological gap in the available data. Cemeteries discovered to date are of either early, Proto- and the Early Dynastic period date, or late, from the end of the Old Kingdom.

A detailed and complete analysis of the sepulchral data from the Delta being beyond the scope of this study, burials belonging to local or state elites were selected for the purpose at hand based upon two basic criteria: tomb architecture and titles of the deceased. With regard to the first criterion these were brick tombs with three or more chambers (a burial chamber and at least two storerooms), sometimes with a mastaba superstructure still preserved (Dębowska-Ludwin 2013: Appendices 4–5; see van Wetering and Tassie 2003: 124), later additionally equipped with structural elements made of stone (Daressy 1902: 165ff.; Barsanti 1916: 213; Hansen 1965: 35–36; Hansen, Soghor, and Ochsenschlager 1967: 10–16; Redford 2010: 28–32). As for the second criterion, burials had to be of persons bearing titles related to state or temple administration (Daressy 1902: 165; Hansen 1965: 35–36; Hansen, Soghor, and Ochsenschlager 1967: 12–16; Fischer 1976; Bakr and Lange 2017: 36–42), although such graves do not appear in the Delta until the late Old Kingdom. Fourteen sites were distinguished: Beni Amir, Kom Abu Billo, Kom el-Akhdar, Minshat Abu Omar, Minshat Ezzat, el-Qatta, Quesna, Tell el-Balamun, Bubastis, Tell el-Dab'a el-Qanan, Heliopolis, Tell Ibrahim Awad, Mendes and el-Rubaiyin. In this group, the burial ground in Bubastis stands out

Table 3. Inventory of higher status sites classified by criteria

No.	CRITERION		SITES
1	Nome capital according to Middle Kingdom sources		Kom Ausim, Kom el-Hisn, Sa el-Hagar, Abu Sir Bana, Tell Atrib, Behbeit el-Hagar, *Sw*, Tell er-Rub'a
2	Nome capital according to later sources		Sakha, Tell el-Baqliya
3	Seat of local administration according to Old Kingdom titles	Related to military function	*Ỉdȝ, Wʿrt-nt-Ḥr-Nb-Mȝʿt, Wnt, Srr, Tpȝ*, Tell Abu Seifa
		Other	Kom el-Hisn, Tell el-Fara'in, *Rȝ wr, Ḥwt-nṯr-nt-Śnfrw, Ḥwt sn(j), Śbȝ ḥr ḫntj pt, Śḫmw, Štwj*
4	Location of temples according to Old Kingdom titles		Kom Ausim, Tell Basta, Damanhur, Heliopolis, Tell el-Fara'in, Tell el-Rub'a, Tell Abu Seifa, *Śṯ(r)t*
5	Sites with buildings of administrative function		Tell el-Fara'in, Tell el-Farkha, Tell Ibrahim Awad, Tell Basta
6	Sites with temples		Tell el-Rub'a, Tell Basta, Tell Ibrahim Awad
7	Sites with elite cemeteries or higher status graves		Beni Amir, Kom Abu Billo, Kom el-Akhdar, Minshat Abu Omar, Minshat Ezzat, el-Qatta, Quesna, Tell el-Balamun, Tell Basta/Bubastis, Tell el-Dab'a el-Qanan, Tell el-Hisn/Heliopolis, Tell Ibrahim Awad, Tell el-Rub'a/Mendes, el-Rubaiyin
8	Size of sites	10 ha and more	Hamsa, Kafr Hassan Dawud, Kom Abu Billo,* Kom el-Hisn, Kufur Nigm, Tell Abu el-Halyat, Tell Basta, Tell el-Dab'a el-Qanan, Tell el-Baqliya,* Tell el-Balamun,* Tell el-Fara'in, Tell el-Ginn,* Tell Neshed,* Tell el-Masha'la, Tell el-Shaqafiya, Tell el-Yehudiyya,* Tell el-Rub'a, Tell Tebilla*
		5 ha and more	Tell el-Akhdar, Tell el-Ginidba, Tell el-Iswid, Tell el-Murra, Tell el-Samarra, Tell Ibrahim Awad
		3 ha and more	Behbeit el-Hagar, Tell Abu Shiesa, Tell el-Farkha, Tilul Mohamed Abu Hasan
		less than 3 ha	Kom Aziza,* Kom el-Khilgan, Minshat Abu Omar, Tell Abu Dawud II, Tell Abbasiya, Tell el-Gabbara, Tell Gezira el-Faras, Tell Gherier, Tell Umm 'Agram, Tell Umm el-Lahm, Tell Umm el-Zaiyat

* data on the surface refers to periods later than the 3rd millennium BC

quite clearly: officials directly related to the Residence were buried next to representatives of local elites (including priests of the Bastet temple) (Bakr and Lange 2017: 44–45). The great mastabas found on two sites, Kom Abu Billo (Farid 1973; Leclant 1971; 1972; 1973) and Quesna (Rowland 2011a; 2011b), also suggest that people of significant influence and position were buried there. A local priesthood elite dominated the necropolis in Heliopolis (Barsanti 1916; Porter and Moss 1934: 61–62) and Mendes (Redford 2010: 28–30), and the existence of a cemetery serving local elites is also to be expected at Kom el-Akhdar, next to Abu Sir Bana (Fischer 1976) and Tell el-Balamun (Leclant 1979). Earlier cemeteries in the Delta are generally less monumental, especially compared to the necropolises of the Memphite region. Standing out clearly against this background are Beni Amir (Krzyżaniak 1989; Abd el-Hagg Ragab 1992), Tell el-Dab'a el-Qanan (el-Baghdadi 2008) and Tell Ibrahim Awad (van den Brink 1988: 76–78; van Haarlem 1993; 1996) (see Dębowska-Ludwin 2013: Appendices 4–5).

With the bulk of site identifications being based on survey results supplemented with data from the written sources (which are largely late or imprecise; see Zibelius 1978) [see *Table 2*], it appears that the system known from later times, consisting of a clearly defined nome capital and smaller provincial centers (e.g., centers of smaller districts within provinces, religious centers etc.) is not entirely applicable to the Early Dynastic and Old Kingdom periods. The first official lists that unified the names of the capitals of individual provinces did not appear until the Middle Kingdom (Gomaà 1986: 1–4). These are preserved mainly on the Altar of Amenemhat I in Lisht (Fischer 1959) and the White Chapel of Sesostris I in Karnak, both from the times of the Twelfth Dynasty (Lacau and Chevrier 1956; 1969). Among the sites that existed already in the 3rd millennium BC, eight are listed as provincial capitals at the beginning of the Middle Kingdom [*Table 3*]. The next two, Sakha and Tell el-Baqliya, are listed as the capitals of, respectively, the 6th and 15th nomes of Lower Egypt in later times (Helck 1974: 163, 190; see Gomaà 1987: 99–102, 239–241) [see *Table 3*]. Earlier sources do not give clearly defined nome capitals, possibly because for most of the 3rd millennium BC, the northern provinces were managed directly from Memphis (Moreno García 1999b: 252–266; 2013). In this case, the development of regularly spaced cities as the main administrative centers for individual nomes would be the result of a rather late evolution, as discussed by Barry J. Kemp (1977: 196–199). For the Old Kingdom, however, there are names of localities acting as seats of local administration at different times and on different levels. These should be considered not so much as capitals of nomes, but rather smaller districts within the nomes, complexes of settlements within a specific territorial and economic unit (see Moreno García 1996; 1997; 1998; 1999a; 1999b) or even individual towns. Only a few localities fit this category: 14 out of 139 sites dated to the 3rd millennium BC appear in the titles of officials of the period as toponyms where these individuals performed their adminis-

trative duties [see *Table 3*]. Among this 14, six are related to military function:[8] *Idȝ, Wʿrt-nt-Ḥr-Nb-Mȝʿt, Wnt, Srr, Tpȝ*, and Tell Abu Seifa, while eight appear in a civil context: Kom el-Hisn,[9] Buto, *Rȝ wr, Ḥwt-nṯr-nt-Śnfrw, Ḥwt sn(j), Śbȝ ḥr ḫntj pt, Śḫmw ʿnd Štwj*.

A separate category is made up of priesthood titles representing various provincial cults. They provide the grounds for reconstructing a network of temples of deities of national or supra-local importance, significant to the extent that officials prided themselves on performing priestly functions there. These were: Letopolis, Bubastis, Damanhur, Heliopolis, Tell el-Fara'in, Mendes, Tell Abu Seifa and *Śṯ(r)t*.

Finally, the size of a site should be factored in when discussing site hierarchy. However, this is a very questionable determinant for several reasons. Due to intense construction and agricultural activity in the Delta in recent decades, many sites have been destroyed or significantly reduced. In addition, a large number of tells reached their present size in later times, while any assessment of settlement extent in the 3rd millennium BC will not be reliable due to the limitations of field research.[10] The greatest credibility in this respect is attached to sites abandoned in the Old Kingdom or shortly thereafter, which had lost their position in the beginning of Pharaonic civilization. Finally, categorizing sites by size can be confusing, since smaller sites could also be high-ranking estates, such as Tell el-Farkha occupying less than 5 ha in a developed stage (see Chłodnicki 2014).

Out of 87 located sites, 41 produced data on approximate area [see *Table 3*]. Many of the others are either farmland or overbuilt by modern cities. In the case of a significant number of sites located on the outskirts of the Delta, in the low desert, there is no reliable information on their size. The sites were divided into four categories: over 10 ha (18 sites), 10 to 5 ha (six sites), 5 to 3 ha (four sites), and less than 3 ha (10 sites). For nine of them (*Table 3*, marked with an asterisk), the data on the surface refer to periods later than the 3rd millennium BC, hence caution is advised. However, in some cases (e.g., Kom el-Hisn; see Wenke 2016: Fig. 1.10), it seems that the area they covered during the Old Kingdom, while significantly smaller than the current size of the site, could have been over 10 ha, making it justified to classify them in this category.

DISTRIBUTION OF HIGHER STATUS SITES

At first glance, the distribution across the Delta of sites to which at least one of the criteria indicating their higher status can be applied (excluding the size criterion) is fairly uniform. In virtually each of the above-mentioned settlement clusters (including Wadi Tumilat, if

8 Localities that were the starting point for troops during the campaign against the Asians, unless indicated as places of military function, were not included (Zibelius 1978: 63, 193).

9 However, police functions were probably associated with the function of the Kom el-Hisn *ḥwt-jḥ(w)t* administrator (Moreno García 2015: 91–103).

10 There are exceptions, e.g., Buto (Hartung et al. 2009: 172–181) or, to a lesser extent, Kom el-Hisn (Wenke 2016: Fig. 1.10).

written sources are taken into account), one can recognize sites that stood out from the environment in one way or another. Interestingly, only such locations have been identified in the field along the Great River in the central Delta. However, chronology considered, there is clearly some significant differentiation between sites. In the northwestern Delta, sites considered higher in the hierarchy (ignoring the uncertain existence of Sakha/Xois) exist fairly steadily throughout the entire 3rd millennium BC; the lack of archaeological remains at a given site is counterbalanced by written sources [see *Tables 1, 3*]. In the southwestern and central Delta, practically all of these sites, apart from the quite uncertain data from Tell Atrib [see *Table 1*], are dated to the Old Kingdom, often only the end of this period, e.g., Kom Abu Billo, el-Qatta, and Abu Sir Bana. It is different in the eastern Delta. Most of the higher status sites that have been dated to the Early Dynastic period lose their status and/or cease to exist by the beginning of the Old Kingdom. Only a few, located mainly on the outskirts of the northeastern cluster, like Bubastis and Mendes, continue to function as important centers, even gaining in importance in the late Old Kingdom.

As for the archaeological remains, it is clear that it is the eastern Delta, especially its northeastern part, that is definitely over-represented. Among the sites where remains of administrative structures have been documented, only one (Buto) is located in the western Delta, the others being in the eastern Delta (Tell el-Farkha, Tell Ibrahim Awad, Bubastis). Moreover, only one of them (Bubastis) has structures from the Old Kingdom. All sites with remains of temples (Mendes, Bubastis, Tell Ibrahim Awad) have also been identified in the east. In this case, they are mostly dated to the Old Kingdom. The only Early Dynastic temple in this set (Tell Ibrahim Awad) seems to be a provincial estate, operating on a local level (Małecka-Drozd 2021; see also above). The advantage of the east is also visible when the location of the cemeteries is taken into account. Most of the sites where burials of people of greater importance were identified were located in the eastern Delta. Six of these should be connected with the northeastern settlement cluster: Mendes, Minshat Abu Omar, Minshat Ezzat, el-Rubaiyin, Tell el-Dab'a el-Qanan, and Tell Ibrahim Awad. Most of the burials considered as elite should be dated to the Early Dynastic period: only in Mendes and el-Rubaiyin, located on the outskirts of the cluster, the graves are from the late Old Kingdom. Further south, there are Beni Amir and Bubastis, respectively dated to the Early Dynastic and late Old Kingdom periods. The cemetery in Heliopolis, where tombs of priests from the late Old Kingdom were discovered, is located further to the southeast. In the central Delta, that is, along the Sebennytic and Fatmetic Nile, there are only three sites. Southernmost Quesna is also the oldest example and the only one in the group with a big mastaba dating to the early Old Kingdom. The cemeteries further north, at el-Kom el-Akhdar and Tell el-Balamun, are known only from indirect sources [see *Table 1*] and dated to the late Old Kingdom. Finally, only two cemeteries from the western Delta are included in this list: Kom Abu Billo

and el-Qatta located in the southwestern cluster. Both sites are located on the edge of the Delta, which would have been a low desert in ancient times, and are dated to the late Old Kingdom.

The distribution of important sites is somewhat different when it comes to references in written sources. Of the nome capitals appearing in later lists, four (Kom Ausim, Kom el-Hisn, Sa el-Hagar, and Sakha) were located in the western Delta (2nd, 3rd, 4/5th and 6th nomes), four (Abu Sir Bana, Behbeit el-Hagar, Tell el-Baqliya, and Tell Atrib) in the central Delta (9th, 10th, 10th and 15th nomes) and only two (*Sw* and Mendes) in the eastern Delta (13th and 16th nomes). The capitals of the remaining provinces, even if they appear in sources from the times of the Middle Kingdom, are not certified for the 3rd millennium BC. In the case of the toponyms mentioned in the titles of the 3rd millennium officials, localities associated with some form of civil administration are situated primarily in the western (Kom el-Hisn, Tell el-Fara'in, ***Ḥwt-nṯr-nt-Śnfrw, Śḫmw***) and central (***R3 wr, Ḥwt sn(j)***) Delta. Only one, most likely of fairly low rank, is located in the western part of the northeastern cluster (***Štwj***). When it comes to toponyms indicating places related to a specific military function, all of them are located on the outskirts of the eastern Delta [see *Tables 2, 3*]. The locations of the temples mentioned in the titles of officials of this period are more varied: five were in the eastern Delta (Bubastis, Heliopolis, Mendes, Tell Abu Seifa, and Tell el-Fara'on [Tell Nebesha] and three in the western Delta (Letopolis, Damanhur, and ***Śṯ(r)t***).

The site size criterion cannot be taken as a decisive factor, but it provides the grounds for observing several regularities. Of the sites for which an approximate area could be determined, only four were located in the western Delta (Kom Abu Billo, Kom el-Hisn, Tell el-Fara'in, and Kom Aziza), while three were in the central Delta (Tell Baqliya, Tell el-Balamun, and Behbeit el-Hagar). Most of them were classified as large sites of over 10 ha, one (Behbeit el-Hagar) as a medium site between 3 and 10 ha, and one (Kom Aziza) as a small locality with an area of less than 3 ha [see *Table 3*]. Most of the sites subject to the size criterion are located in the eastern Delta. They are the most diversified in terms of size: 13 belong to the category of large sites, nine were medium in size, and ten were classified as small [see *Table 3*].

Breaking down the site size criterion by chronology gives the folowing observations: as many as 14 large sites—the majority—existed already in the Early Dynastic period (Kafr Hassan Dawud, Kom el-Hisn, Kufur Nigm, Tell Abu el-Halyat, Bubastis, Tell el-Dab'a el-Qanan, Tell el-Baqliya, Buto, Tell el-Ginn, Tell Nesched, Tell el-Masha'la, Tell el-Sahaqafiya, Tell el-Yehudiyya, and Mendes), one is attested from the Early Old Kingdom onward (Hamsa), and only three from the late Old Kingdom (Kom Abu Billo, Tell el-Balamun, Tell Tebilla). In the case of the remaining size categories, there is no significant correlation between the size of the site and its chronology.

A correlation of site size with other criteria indicating status gives inconclusive results. Almost 50% of the large sites were classified as having a higher status

on the basis of at least one of the selected criteria. This value drops to 40% among the middle-sized settlements (30% when taking into account sites over 5 ha and 50% for sites over 3 ha). However, only less than 10% of the sites recognized as small could have higher status. Nonetheless, taking into account individual criteria, the vast majority of sites with an estimable size were classified as large. Notable exceptions are the early administrative centers at Tell el-Farkha and the settlement at Tell Ibrahim Awad in the northeastern Delta, and the later capital of the 12th nome, Behbeit el-Hagar, in the central Delta. On the other hand, there are examples of large sites that have not been excavated yet or have been explored to a small extent, and which may potentially be classified as higher-status centers. This group includes mainly three sites from the northeastern cluster: Tell Abu el-Halyat, Kufur Nigm and Tell Neshed, all dated to the Early Dynastic and beginning of the Old Kingdom. All three tells, once large, have been significantly reduced by the ingress of cultivation. Tell Abu el-Halyat and Kufur Nigm, which have recently been verified again in the field within the framework of the project "The structural variability of the Nile Delta settlements" are now divided into several separate koms. The collected archaeological material (Jucha forthcoming) confirms the results of previous studies (van den Brink 1987; Bakr 1988; Jucha 2011b), and indicates that in the Early Dynastic period and at the beginning of the Old Kingdom both sites were large, relatively well-to-do settlements with their own cemeteries (see Małecka-Drozd 2021). In the case of Tell Neshed, only the southern and central-eastern parts of the site have survived to this day. Recent IFAO excavations (Guyot et al. 2018) have revealed a settlement dated to the early Old Kingdom, which included economic structures, walls of a larger building of unknown purpose and a brick platform serving perhaps as a foundation for a sacral structure (see Małecka-Drozd 2021). This suggests that the hierarchical structure of settlements in this part of the Delta was more complicated than can be inferred from the data currently available and will be revised once new data emerge.

CONCLUSIONS

Three pivotal areas can be distinguished in the Nile Delta during the 3rd milennium BC—northeastern, southwestern and northwestern—and all stand out for their high and relatively stable population density throughout this period. The landscape that characterized these areas was a combination of many dry, well-spaced *geziras*, intersected by numerous watercourses, long-standing water reservoirs and swamps. It offered the possibility of diversified economic development, based on farming, breeding, fishing, gathering and hunting. The northeastern Delta was like this especially at the end of the 4th and in the beginning of the 3rd millennium BC, the southwestern and northwestern Delta to a lesser extent, with the additional advantage of heavily forested border areas. Initially, the northeastern Delta clearly dominated in terms of resources and population density, but the

environmental and population potential levelled out over time with the progress of climate and environmental changes (see above and Małecka-Drozd 2020: Figs 1–6).

The three areas were located at the intersection of important water and land routes, providing access to resources unavailable in the Delta. In the case of the northeastern Delta, the major roadway was the land route to the east, through the two main "gates" leading to Lower Egypt (see Somaglino 2010: 6). Its northern branch crossed the Qantara Isthmus to northern Sinai and the Mediterranean coast, heading straight for the southern Levant (Way of Horus). The southern route ran through Wadi Tumilat toward Suez and further east to the Sinai Peninsula. If one can infer from the number of sites discovered in this area, it seems that both routes were equally active at the beginning of the historical period, with some advantage for the northern route (see Braun 2004; Mączyńska 2006; Dębowska-Ludwin et al. 2012; Espinel 2012; Czarnowicz 2014). There are numerous indications of the prosperity of this part of the Delta, as well as of the interest in these settlements demonstrated by central authorities (e.g., *serekhs* or potmarks: Tassie et al. 2008; Jucha 2012b; administrative buildings: Małecka-Drozd 2021). In the Old Kingdom, the southern route took on greater importance (e.g., Bubastis becoming increasingly the hub of all movement in this direction, and the establishment of defensive posts in the Wadi Tumilat area), providing direct access to the rich copper deposits in Sinai (see Mumford and Parcak 2003; Mumford 2006; Ibrahim and Tallet 2009).

The southwestern region benefited from the proximity of Wadi Natrun and the crossing of water and land routes from the northwest toward the apex of the Delta. This area, significant from the very beginning of Egyptian statehood, gained in importance during the Old Kingdom period (e.g., founding of Abu Ghalib by Snefru, later development of Kom Abu Billo and el-Qatta; see ***Table 1***).

In the northwestern Delta, cut off by vast marshes and numerous watercourses, a sea trade route to the east was used fairly early, with a presumed starting point in the Buto area. From there, goods travelled further south and presumably westwards through the steppes around Lake Mariut towards Libya [see ***Figs 1, 4, 5***].

Areas of lesser population density included the southeastern Delta. However, this area was important from a strategic point of view, mainly because of the routes that ran through it and the proximity of Wadi Tumilat, one of the "gates" to this part of the country. In this context, one should note Heliopolis, one of the oldest religious centers of Egypt and the capital of ***Sw***, the 13th nome of Lower Egypt, attested already at the beginning of the Middle Kingdom [see ***Table 3***]. The central Delta, that is, the area along the Sebennytic and Fatmetic branches of the Nile, was probably neither heavily urbanized nor pivotal throughout the 3rd millennium. The sites along the Great River, unless related to *geziras*, appear relatively late, especially in the northern part of the region. It is possible that the southern part of this area, comprising roughly the 9th, 10th and 11th nomes of Lower Egypt, was more densely populated. However, the large degree of urbanization of this

part of the Delta in modern times, significant amounts of alluvium deposited by the Great River and its branches since ancient times, and the predominance of breeding and pastoralism, as the dominant type of economy reconstructed for these areas, make it impossible to recognize a greater number of sites dating to the 3rd millennium BC.

Given the uneven distribution of settlements in the Nile Delta, it should also be assumed that there was no uniform settlement pattern common to all parts of the region. On the basis of the available, still incomplete data, it can be said that for areas with lower population densities, large sites with a larger number of inhabitants were more characteristic [see *Table 3*]. Such a structure would explain, to some extent, the fact that most of the large administrative centers which evolved into nome capitals known from later sources were located in the western and central parts of the Delta. However, given the archaeological underestimation of some regions, especially the northwestern Delta, this may be due to a poor state of research. At present, the northeastern Delta seems to be an area with the greatest opportunity for reconstructing the ancient settlement network on several levels of the hierarchy. The number of sites identified there is the largest, their size is the most varied, and the level of archaeological recognition is the highest [see *Tables 1*, *3*; *Figs 1*, *2*, *3*]. Also, most of the criteria on the basis of which sites of a higher status can be selected, can be applied to settlements identified in this area. In the case of a few of them (e.g., Bubastis, Mendes, and Tell Ibrahim Awad) [see *Table 3*], it is possible to apply at least three such criteria, which suggests that these were sites with a well-established position, built on a different foundation. Interestingly, these are sites located on the outskirts of the main settlement cluster and those that show an uninterrupted history of settlement throughout the period in question. This confirms the direction in which the most likely changes took place in this region: the disappearance of sites located on the smallest watercourses, and between the main rivers of the region, and the further development of towns and villages on the larger branches and at points of strategic importance, e.g., on the route leading toward the "gates" of Egypt.

On the grounds of the collected data, it is also possible, to an extent, to identify areas with the greatest probability of still concealing sites from the 3rd millennium BC. In the northeastern Delta, areas south of the Faqus-Simbillawein line toward Bubastis still have some potential, as well as those east and west of this site. It seems almost unlikely that there was no larger settlement during the period in question around a city of this importance and centuries of history (see Dreyer 1998: 125–126; Lange 2016: 310), considering the varied landscape and location at the intersection of important water and land routes. The existence of a significant cemetery in Beni Amir indicates that the inhabitants of this region enjoyed a period of prosperity already during the Early Dynastic period. Further south, toward Tell el-Yehudiya and Heliopolis, settlement probably declined naturally due to local environmental conditions (see above), but only intensive field surveys could confirm this hypothesis.

As said already, the Buto–Xois region in particular and the entire northwestern Delta in general, also appear to be archaeologically underestimated. There may be some potential for new Old Kingdom sites in the sandy elevations northwest of Kom el-Hisn. It is possible that some of the late sites identified in the EES Delta Survey (e.g., Wilson and Spencer 2004; Wilson and Grigoropoulos 2009: 160–164; Trampier 2014: 165–175) have a much older settlement history related to the vineyards postulated in this region (Zibelius 1978: 148, 223, 268). There seems to be an opportunity to identify sites dating back to early Egyptian history also in the Buto area. However, field studies conducted in recent years by the German Archaeological Institute have largely been unsatisfactory, revealing mainly settlements from the Late and Greco-Roman periods (Schiestl 2010; 2011; 2012; 2013). It could be because either meters of alluvia now cover the earlier remains or they are below the groundwater level.

Finally, some potential for the discovery of sites dated to the Early Dynastic and Old Kingdom periods could still exist in the area of the ancient 9th nome and part of the 6th nome of Lower Egypt, between Quesna and Abu Sir Ban, east of Tanta. On the one hand, the existence of an elite cemetery in Quesna shows the importance of this area at the beginning of the Old Kingdom. On the other hand, the network of sandy islands reconstructed on the basis of geological research suggests the possibility of the development of a stable settlement network [see *Figs 4, 5*].

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Abbreviations

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