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La diffusion spatiale de la baisse de la fécondité en Egypte (1950-2006)

Yoann Doignon

08/12/2022

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The spatial diffusion of fertility decline in Egypt (1950–2006)

Yoann Doignon, Elena Ambrosetti & Sara Miccoli

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Sections | Figures | References

Abstract

Introduction

Background and literature review

Materials and methods

Results

Discussion and conclusions

Availability of data and materials

Notes

References

Abstract

While the Egyptian fertility transition has been widely addressed in the literature, few researches have studied the spatial dimension of fertility. Using population census data, the aim of this study is to describe and measure the evolution of the geography of fertility on a subnational scale (qism/markaz), focusing on the period between 1960 and 2006. We assumed that the decline in fertility had spread spatially through Egypt, the spatial diffusion occurring through two traditional mechanisms: contagion and hierarchical diffusion. Our results confirm our hypotheses and highlight the importance of studying the spatial diffusion of the fertility transition. This study is unique for the Egyptian context given the long period

https://genus.springeropen.com/articles/10.1186/s41118-021-00131-9

ETAT DE L'ART

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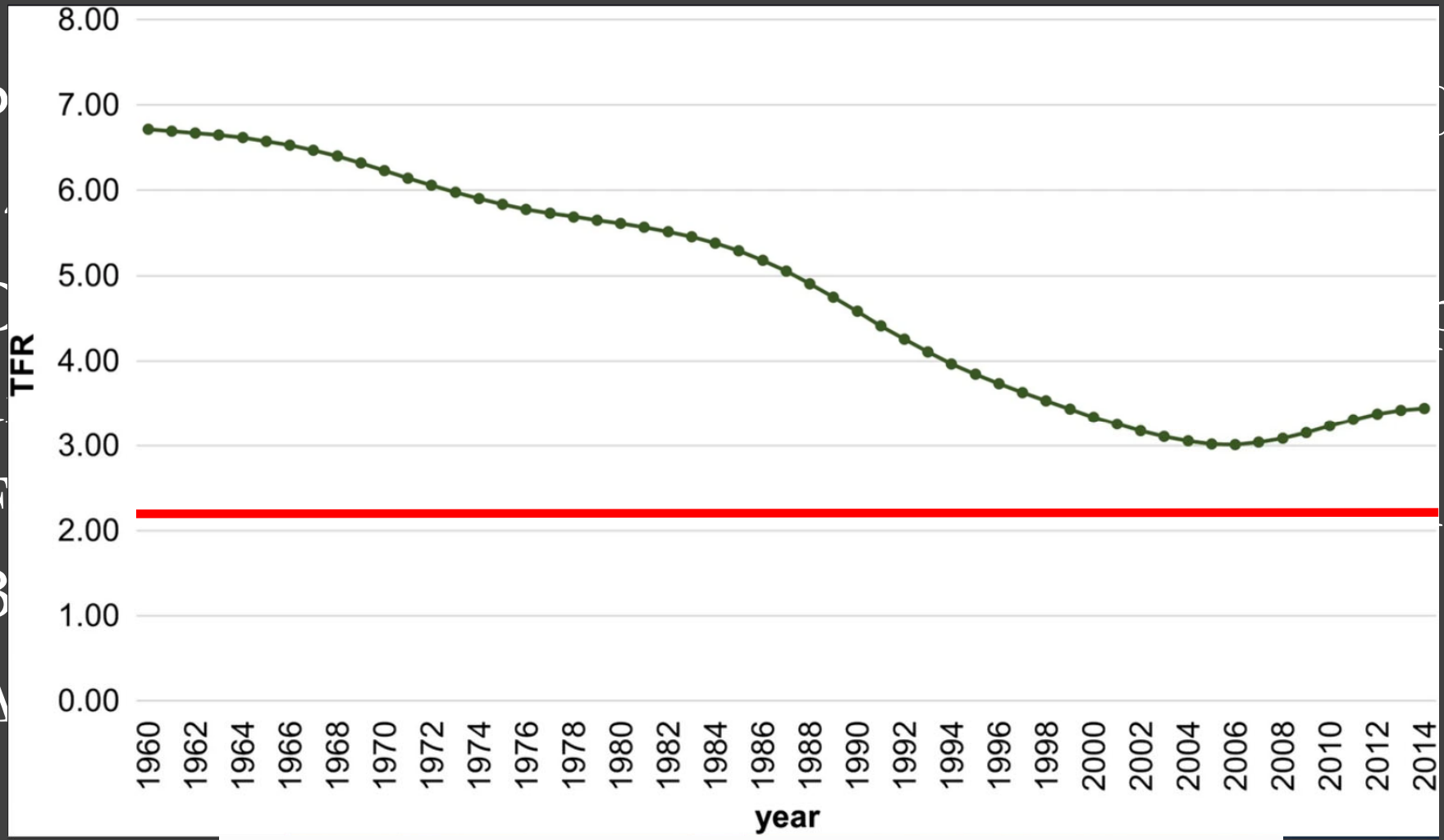


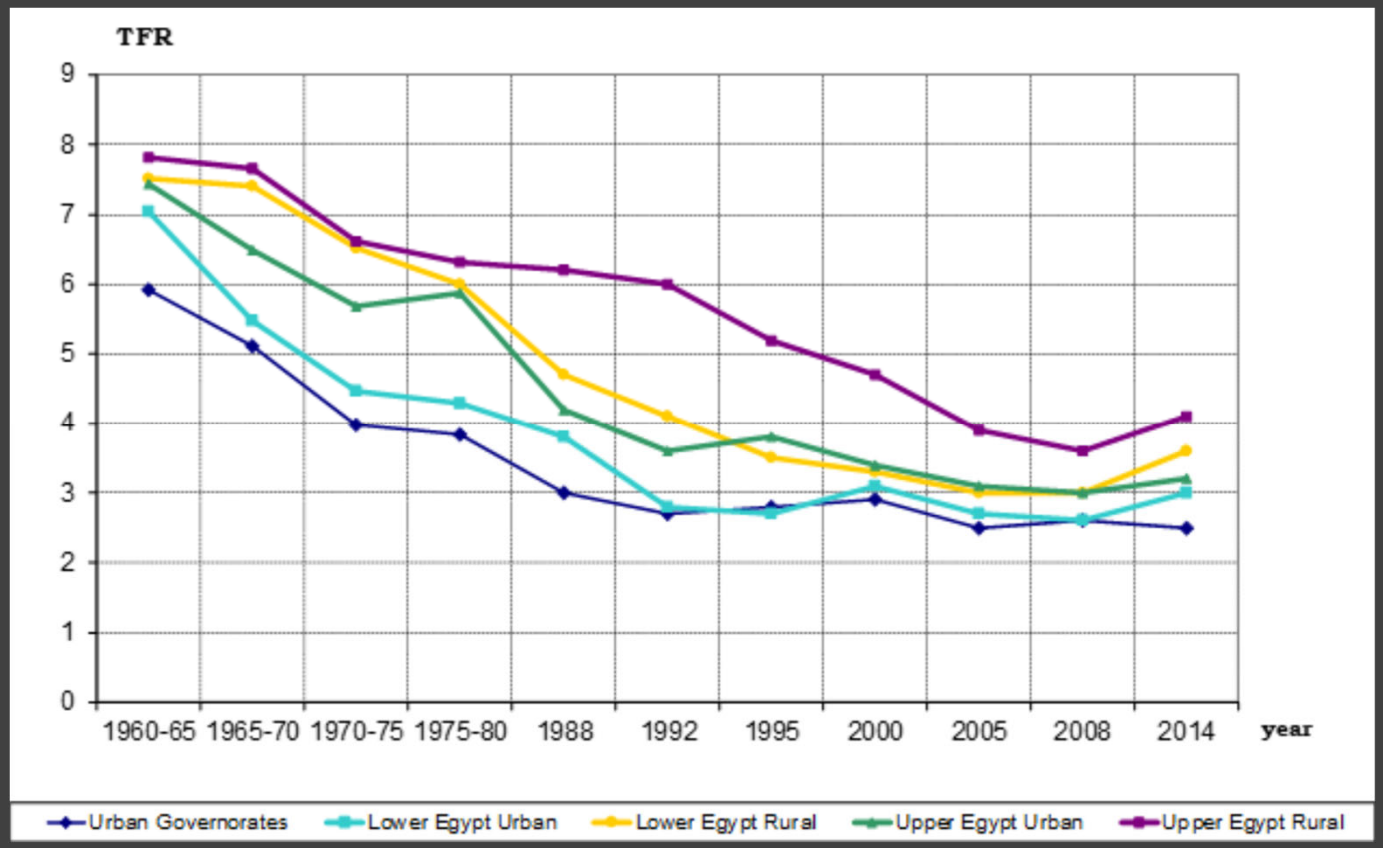
Sources: DHS (various years for the data from 1988 to 2014) and EFS for the data from 1960 to 1980

Dimension spatiale de la fécondité

- Peu de recherches sur la dimension spatiale de la fécondité
- 2 oppositions classiques :
  - Urbain/rural
  - Basse/Haute Egypte

DIMENSION SPATIALE DE LA FÉCONDITÉ

Evolution of TFR in Egypt by type of governorate (1960-2014)



Source: DHS (various years for the data from 1988 to 2014) and EFS for the data from 1960 to 1980

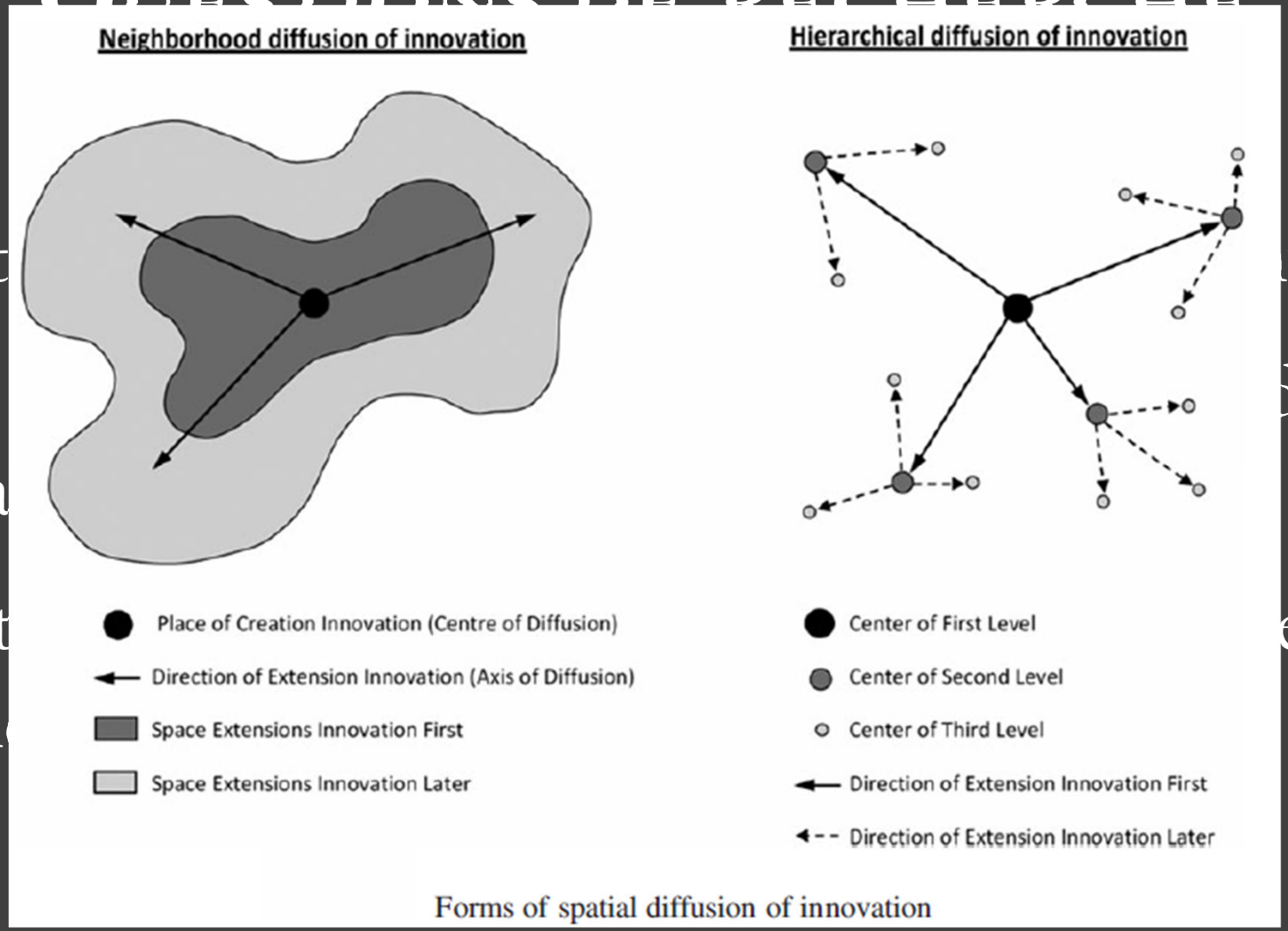
Author: Ambrosetti (2019)

Dimension spatiale de la fécondité

- Peu de recherches sur la dimension spatiale de la fécondité
- 2 oppositions classiques :
  - Urbain/rural
  - Basse/Haute Egypte
- Quelques études :
  - Weeks (2000) : fécondité du gouvernorat de Menoufia
  - Weeks (2004) : fécondité de l'aire urbaine du Caire
  - Bonneuil et Dassouki (2006) : évolution de la fécondité (1960-1996) pour 4905 territoires. Géographie de la baisse de la fécondité n'est pas abordée.

Questions de recherche

- Où et uer ?
- Dans lité s'est propa
- Y a-t e de la féconc

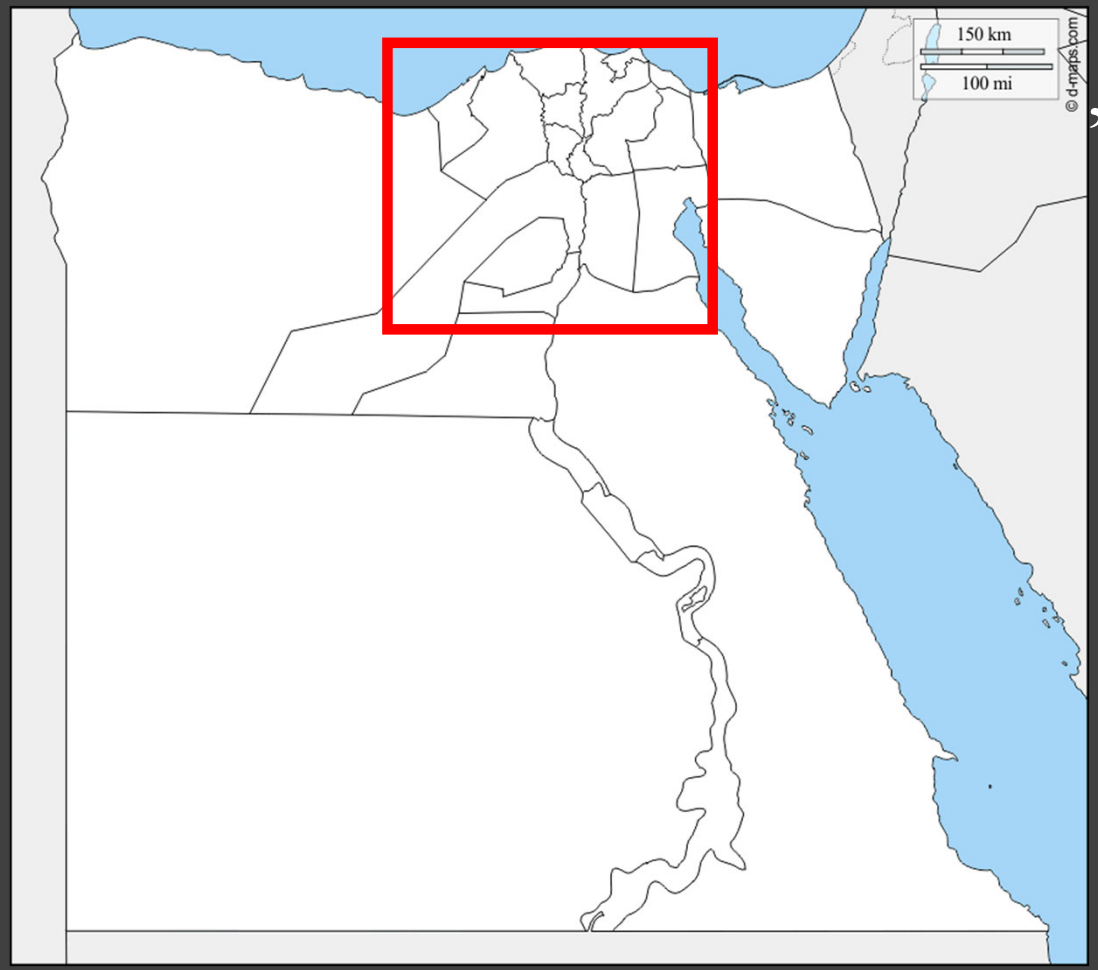


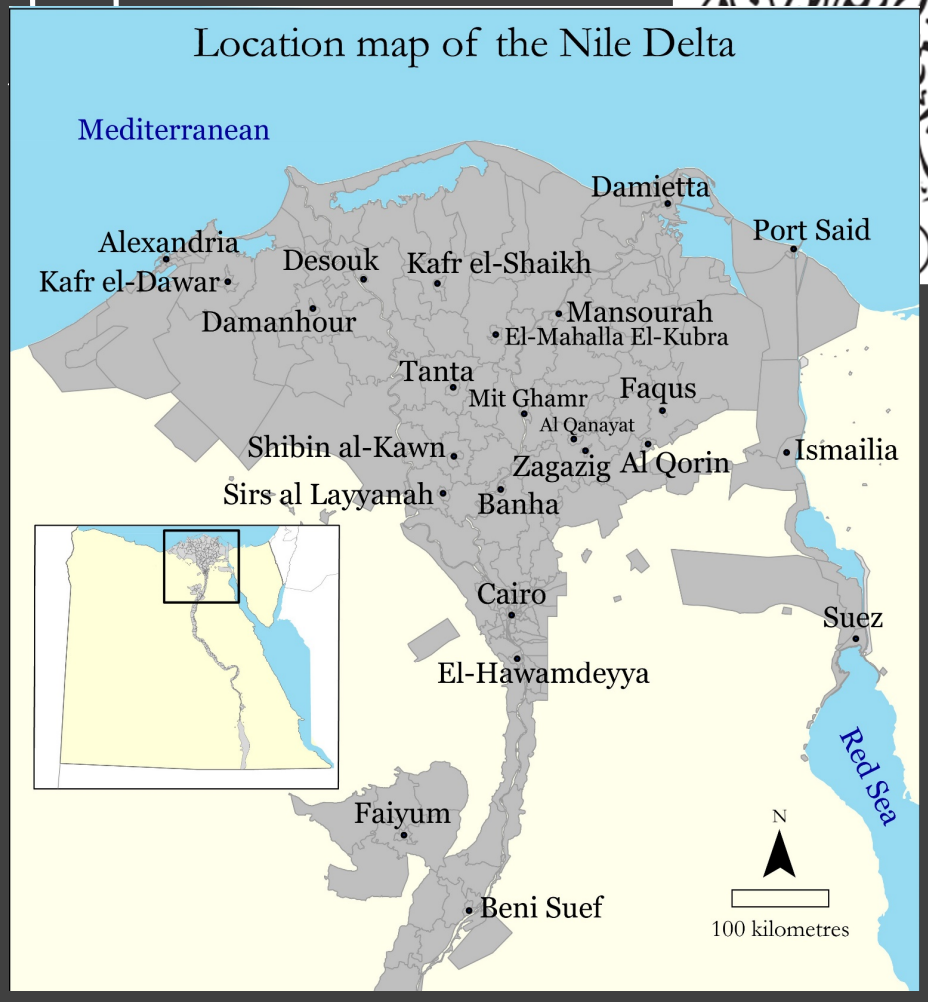
Forms of spatial diffusion of innovation

Source : Bleha (2019)

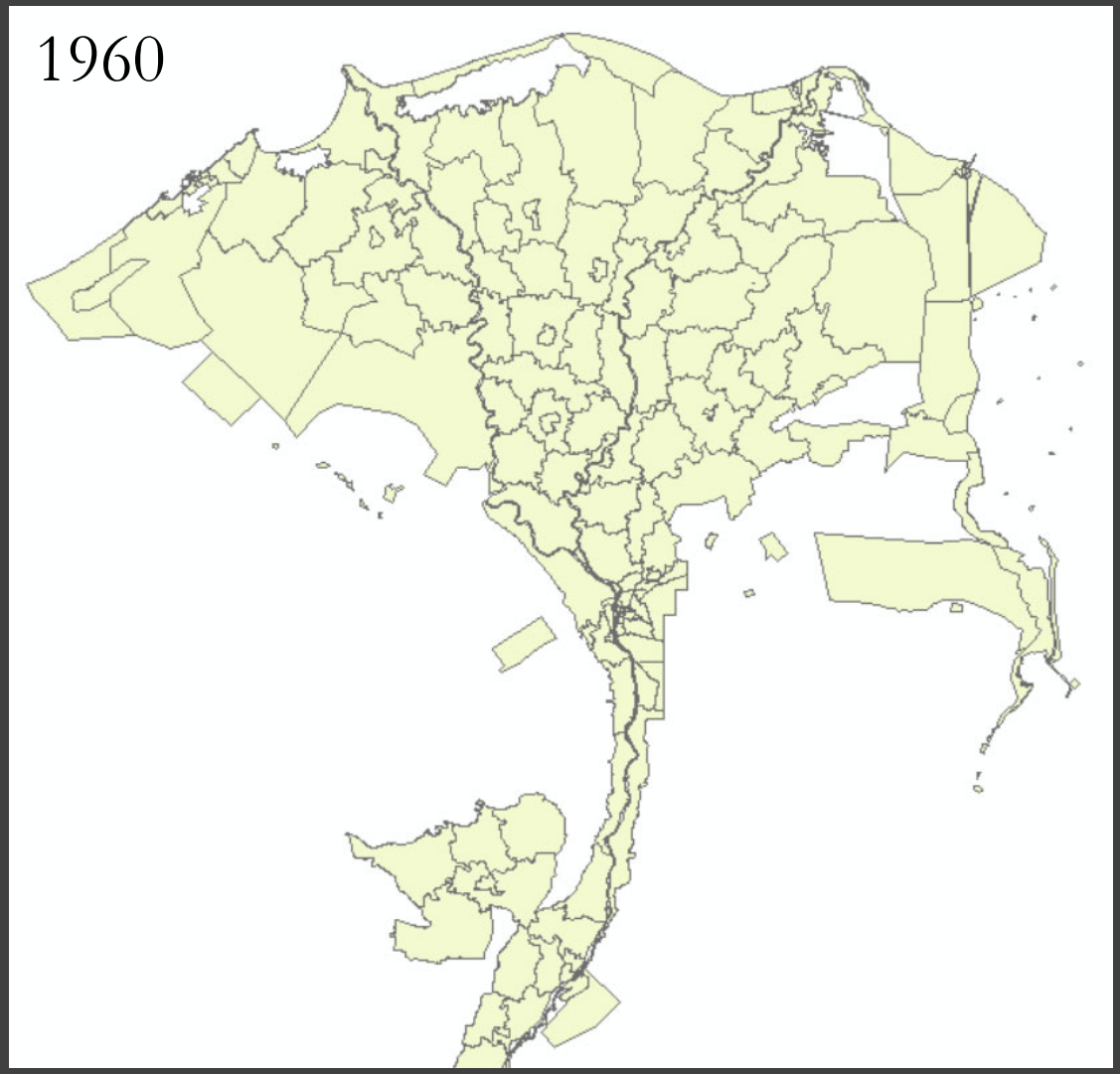
Données et méthodes

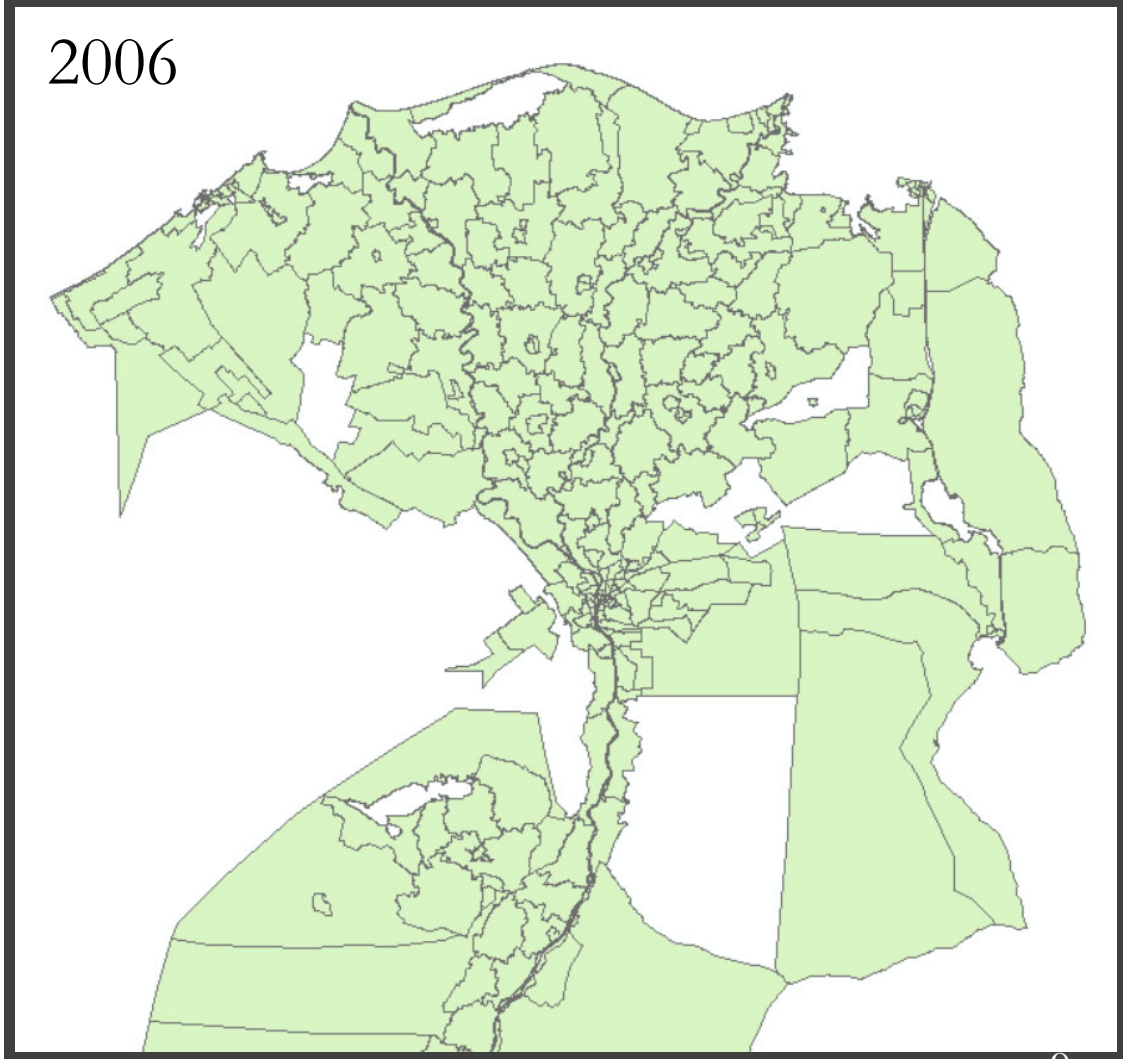
1/ Données de recensements de la population





Données et méthodes





Données et méthodes

1 / Données de

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Serial_Nu	Code_196	Code_1996	Map_Cod	Code_1996+Map_Code	Code_2006	Niveau?	Comment	Name	Arabic_Na	Type	Total_Population	Male_Illiterate	Male_Read
2	1	000000	000000		000000	000000	1	not aggre	TOTAL EGYPT	اجمالي مصر		25984101	5048662	89188
3	2	010000	010000	010000	010000	010000	1	not aggre	Qâhira, al- (Cairo)	القاهرة	muhâfaza	3348779	385603	17831
4	3	010100	011300		011300	011300	2	not aggre	Azbâkiyya, al-	الأزبكية	qism	64032	6744	589
5	31	010300	010800		010800	010800	2	not aggre	Khalîfa, al-	الخليفة	qism	161958	23075	936
6	63	010500	012400		012400	012400	2	not aggre	Zaytûn, al-	الزيتون	qism	100374	9758	427
7	77	010700	010700		010700	010700	2	not aggre	Sayyida Zaynab, al-	السيدة زينب	qism	253648	24226	1023
8	92	010800	011700		011700	011700	2	not aggre	Zâhir, al-	الظاهر	qism	99617	7673	706
9	99	010900	012500		012500	012500	2	not aggre	Matariyya, al-	المطرية	qism	160820	19837	544
10	114	011000	010400		010400	010400	2	not aggre	Ma`âdî, al-	المعادي	qism	83000	13703	792
11	132	011100	011000		011000	011000	2	not aggre	Mûskî, al-	الموسكي	qism	38469	4597	186
12	138	011200	012200		012200	012200	2	not aggre	Wâylî, al-	الوايلي	qism	307173	31476	2061
13	157	011300	011600		011600	011600	2	not aggre	Bâb al-Sha`riyya	باب الشعرية	qism	153131	22261	999
14	174	011400	011200		011200	011200	2	not aggre	Bûlâq	بولاق	qism	202023	31768	1859
15	194	011500	010200		010200	010200	2	not aggre	Hulwân	حلوان	qism	94385	11881	670
16	203	011600	012000		012000	012000	2	not aggre	Rawd al-Farag	روض الفرج	qism	265139	26746	647
17	219	011800	010900		010900	010900	2	not aggre	`Abdîn	عابدين	qism	94969	8103	417
18	230	011900	011100		011100	011100	2	not aggre	Qasr al-Nîl	قصر النيل	qism	43094	3273	167
19	237	012000	012800		012800	012800	2	not aggre	Misr al-Gadîda	مصر الجديد	qism	124774	7145	551
20	244	012100	010600		010600	010600	2	not aggre	Misr al-Qadîma	مصر القديمة	qism	212233	26049	819
21	256	020000	020000	020000	020000	020000	1	not aggre	Iskandariyya, al- (Alexar	الإسكندرية	muhâfaza	1516234	187232	8351
22	257	020100	021000		021000	021000	2	not aggre	Gumruk, al-	الجمرك	qism	140960	18869	475
23	277	020200	020200		020200	020200	2	not aggre	Raml, al-	الرمل	qism	157818	12775	578
24	288	020300	021200		021200	#N/A	2	not aggre	Dikhîla, al-	الدخيلة	qism	22791	2558	49
25	294	020400	020600		020600	020600	2	not aggre	`Attârîn, al-	العطارين	qism	71148	7329	379
26	303	020500	020900		020900	020900	2	not aggre	Labbân, al-	اللبان	qism	77698	12482	1096

DONNÉES ET MÉTHODES

1/ Données de recensements de la population

- 6 recensements : 1960, 1976, 1986, 1996, 2006
- Qism/Markaz

2/ Méthode d'estimation indirecte de la fécondité (Guilmoto, 2001)

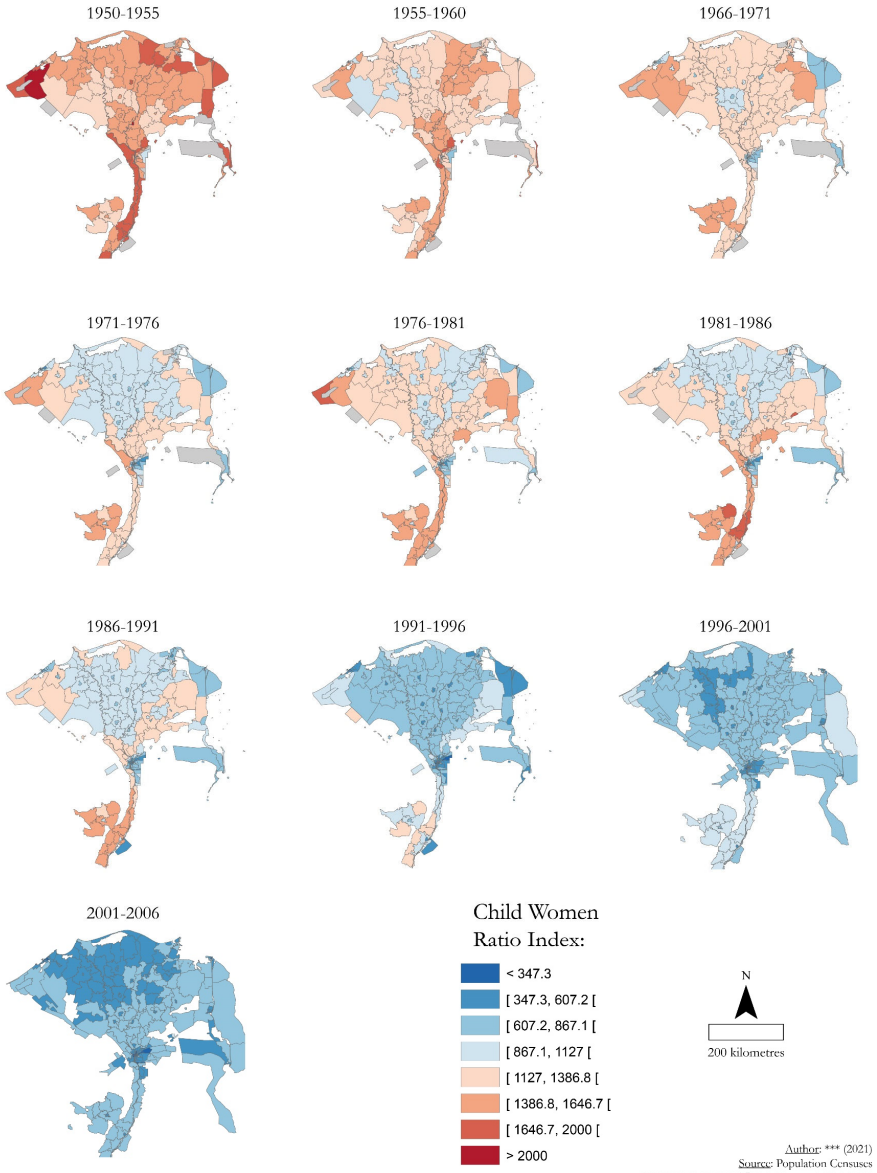
- Child-Women Ratio
- Reconstruction des tendances de fécondité entre 1950 et 2006

3/ Cartographie thématique

- 1 carte par période de 5 ans

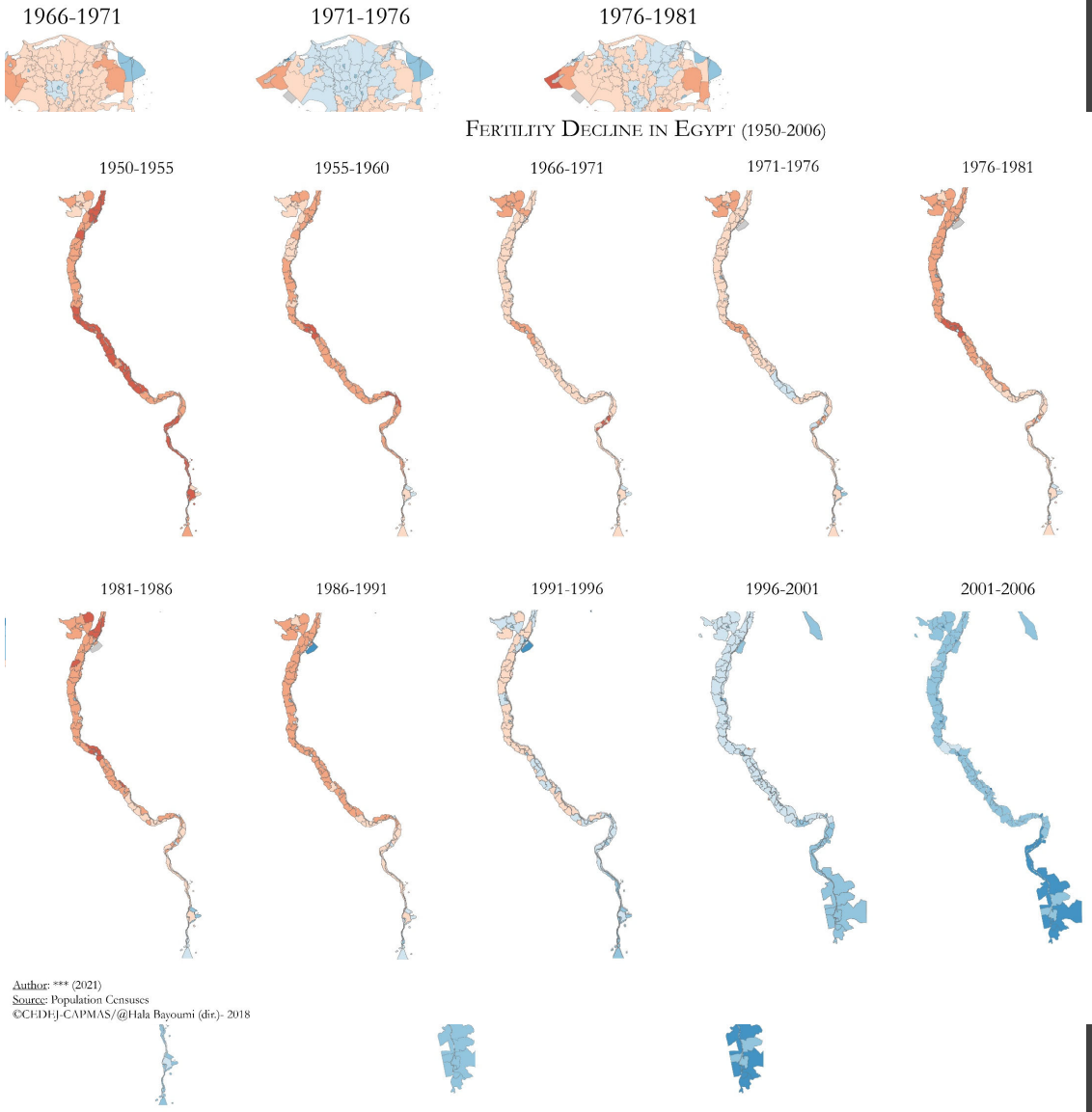
WEST BANK
Marsa Matruh
مرسى مطروح
Alexandria
الإسكندرية
Port Said
بور سعيد
Jerusalem
Jordan
Israel
Cairo
القاهرة
Eilat
Tabuk
تبوك
Sharm
El-Sheikh
شرم الشيخ
Hurghada
الغردقة
Asyut
أسيوط
Sohag
سوهاج
Egypt
Luxor
الأقصر
Marsa Alam
مرسى علم
Aswan
أسوان
Wadi Halfa
وادي حلفا

Fertility Decline in the Nile Delta (1950-2006)



Author: *** (2021)
Source: Population Censuses
©CEDEJ-CAPMAS/@Hala Bayoumi (dir.)- 2018

Fertility Decline in Egypt (1950-2006)

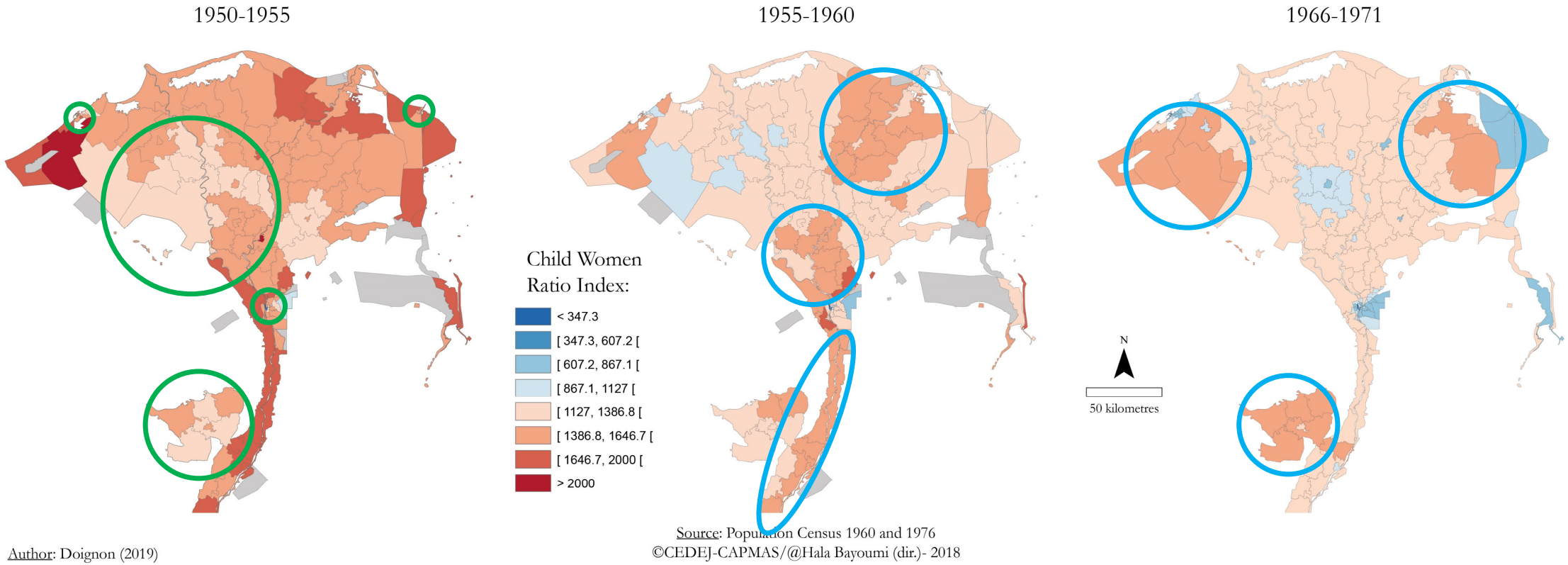


Author: *** (2021)
Source: Population Censuses
©CEDEJ-CAPMAS/@Hala Bayoumi (dir.)- 2018

RESULTATS

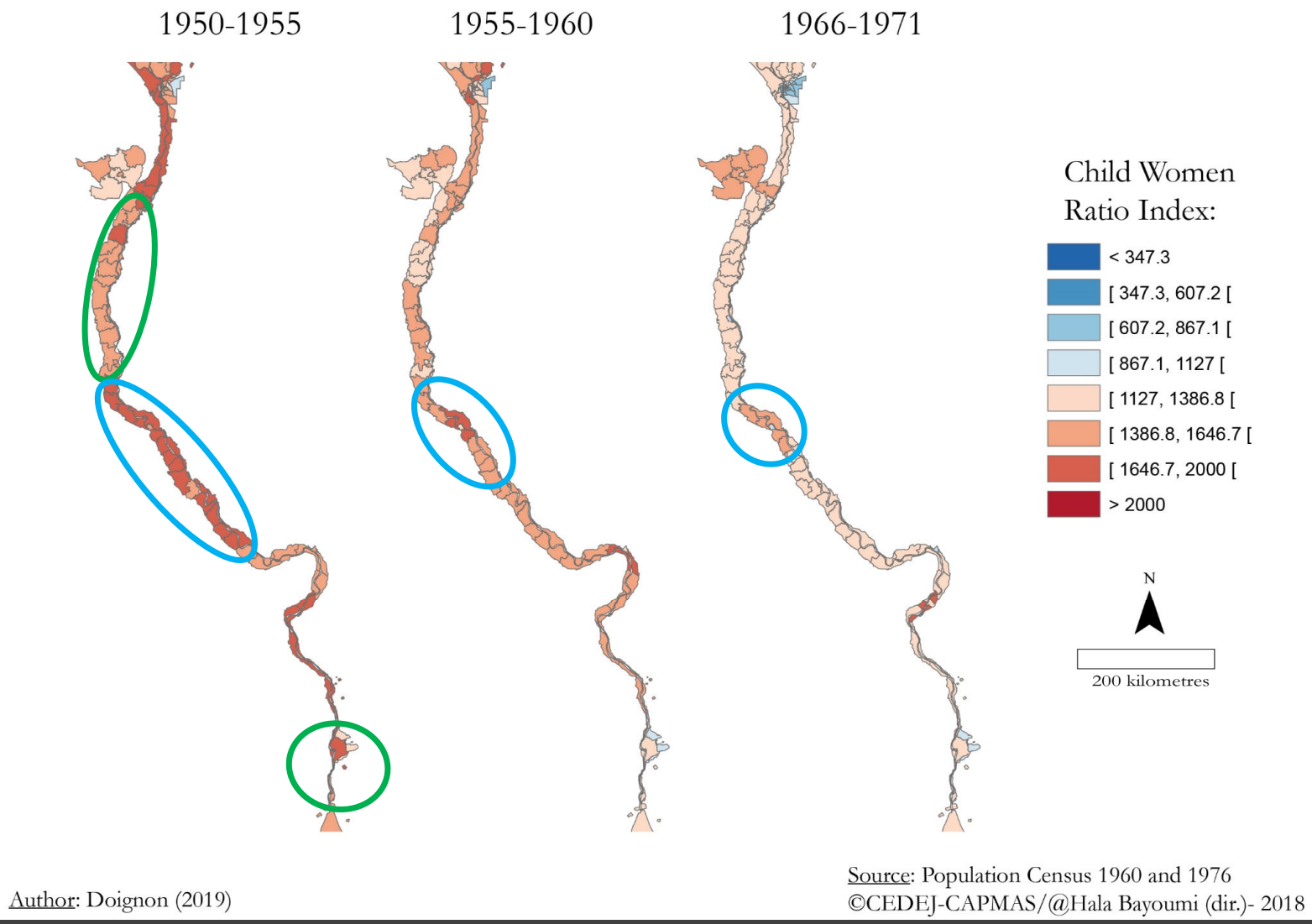
4 caractéristiques de la géographie de la transition de la fécondité en Egypte :

- Lieux où le contrôle de la fécondité apparaît
- Régions résistantes au changement démographique



Author: Doignon (2019)

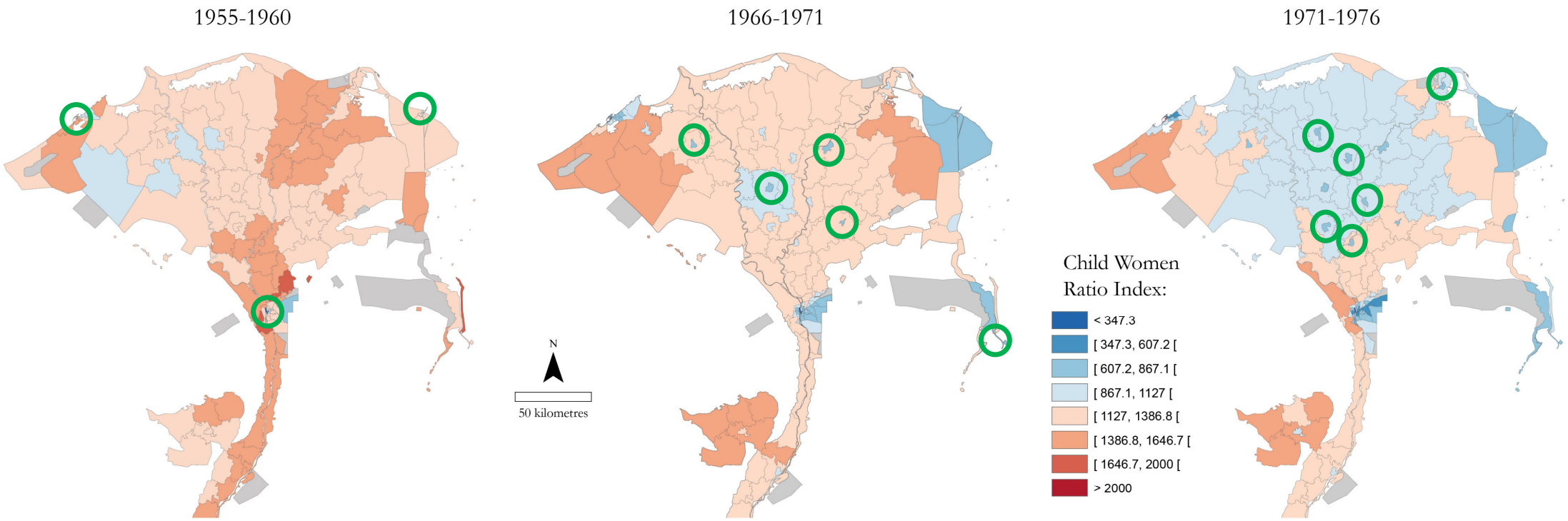
Source: Population Census 1960 and 1976
©CEDEJ-CAPMAS/@Hala Bayoumi (dir.)- 2018


1950-1955
1955-1960
1966-1971
Child Women Ratio Index:
< 347.3
[347.3, 607.2 [
[607.2, 867.1 [
[867.1, 1127 [
[1127, 1386.8 [
[1386.8, 1646.7 [
[1646.7, 2000 [
> 2000
N
200 kilometres
Author: Doignon (2019)
Source: Population Census 1960 and 1976
©CEDEJ-CAPMAS/@Hala Bayoumi (dir.)- 2018

RESULTATS

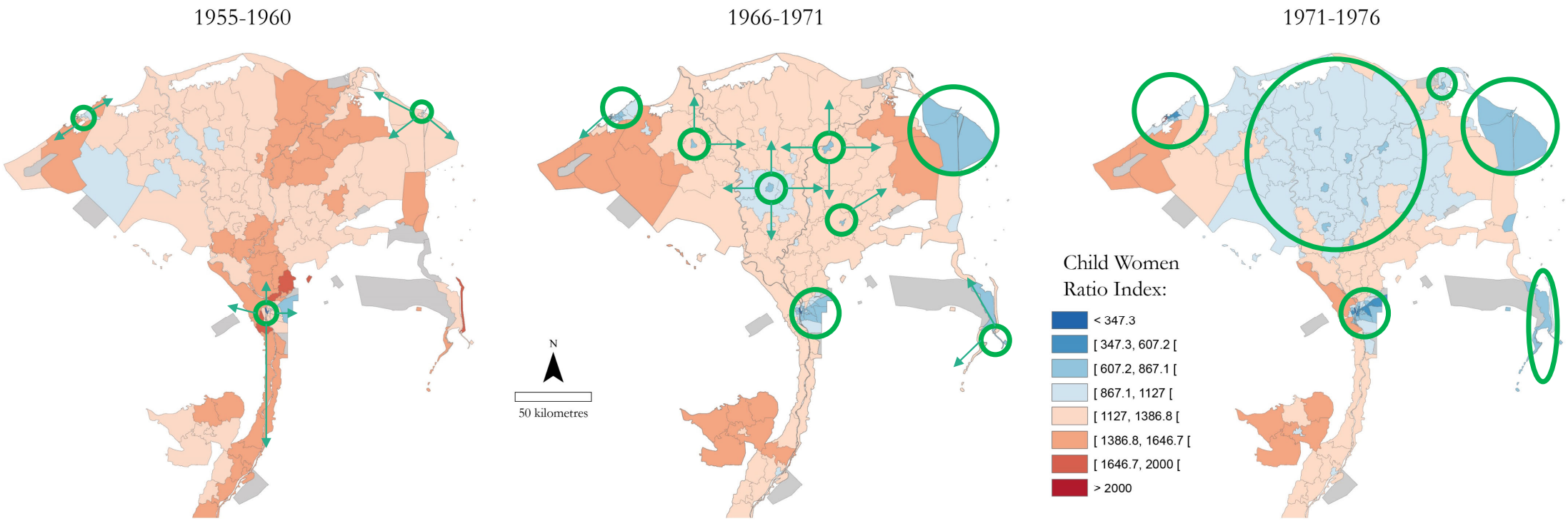
4 caractéristiques de la géographie de la transition de la fécondité en Egypte :

- Lieux où le contrôle de la fécondité apparaît
- Régions résistantes au changement démographique
- Deux mécanismes de diffusion spatiale : hiérarchique et proximité géographique



Source: Population Census 1960 and 1976
©CEDEJ-CAPMAS/@Hala Bayoumi (dir.)- 2018

Author: *** (2019)



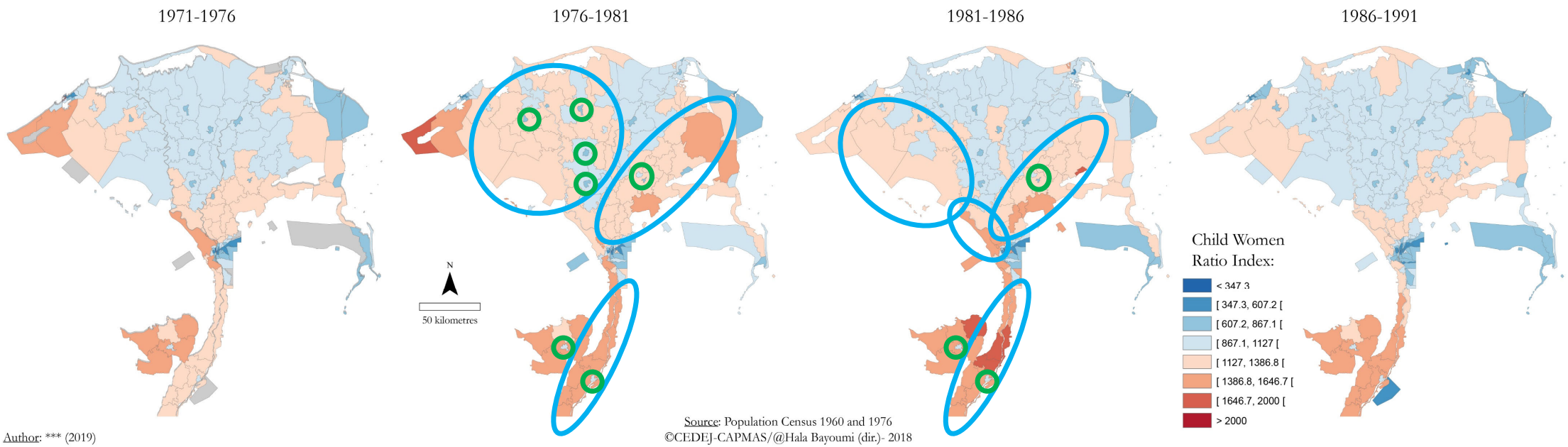
Source: Population Census 1960 and 1976
©CEDEJ-CAPMAS/@Hala Bayoumi (dir.)- 2018

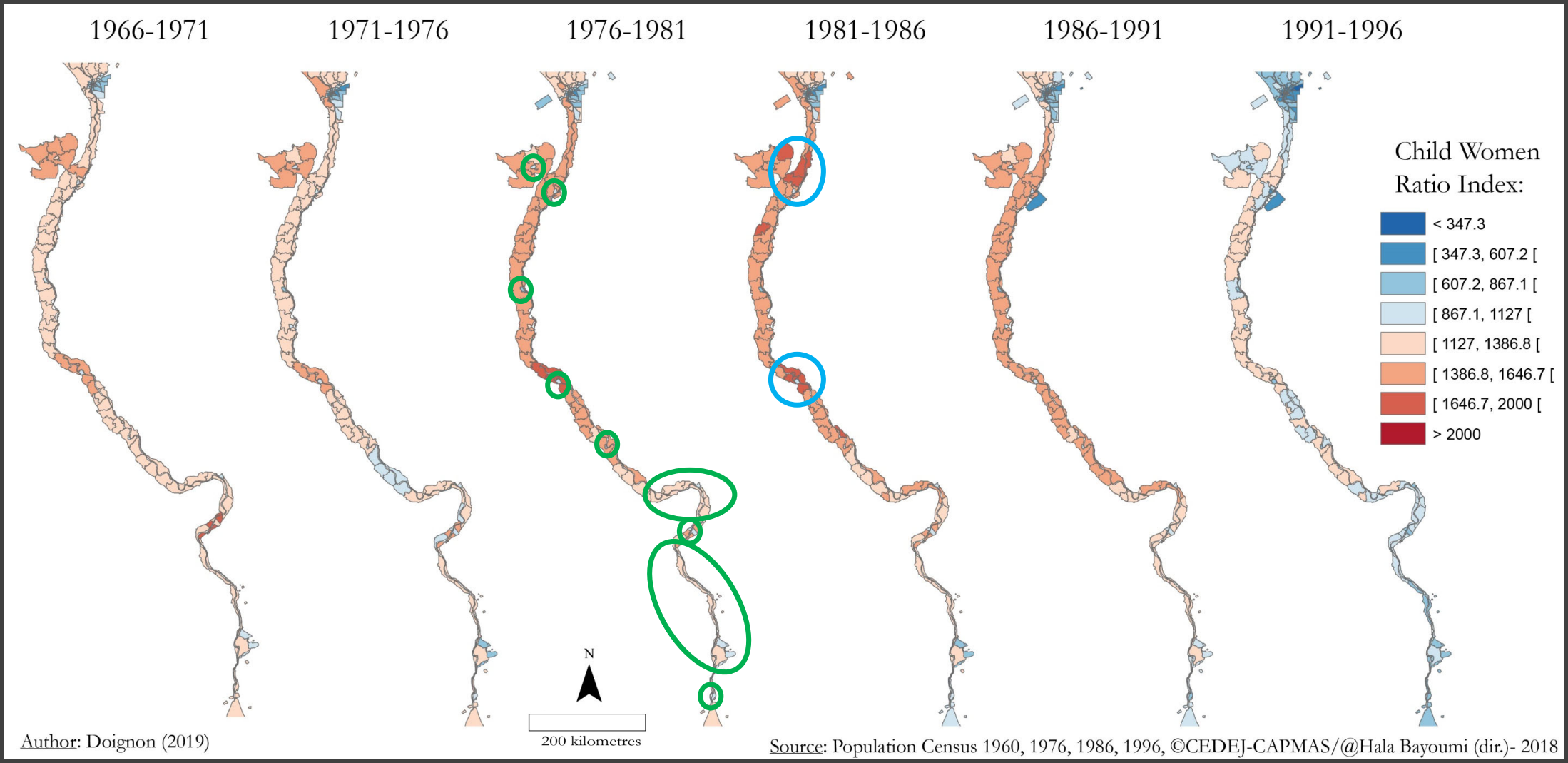
Author: *** (2019)

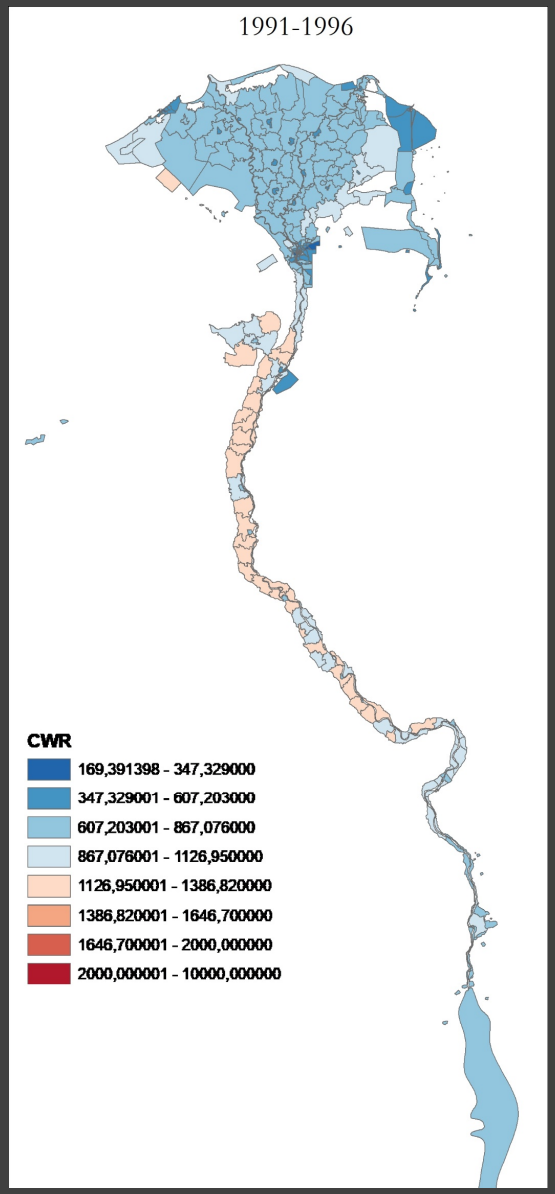
RESULTATS

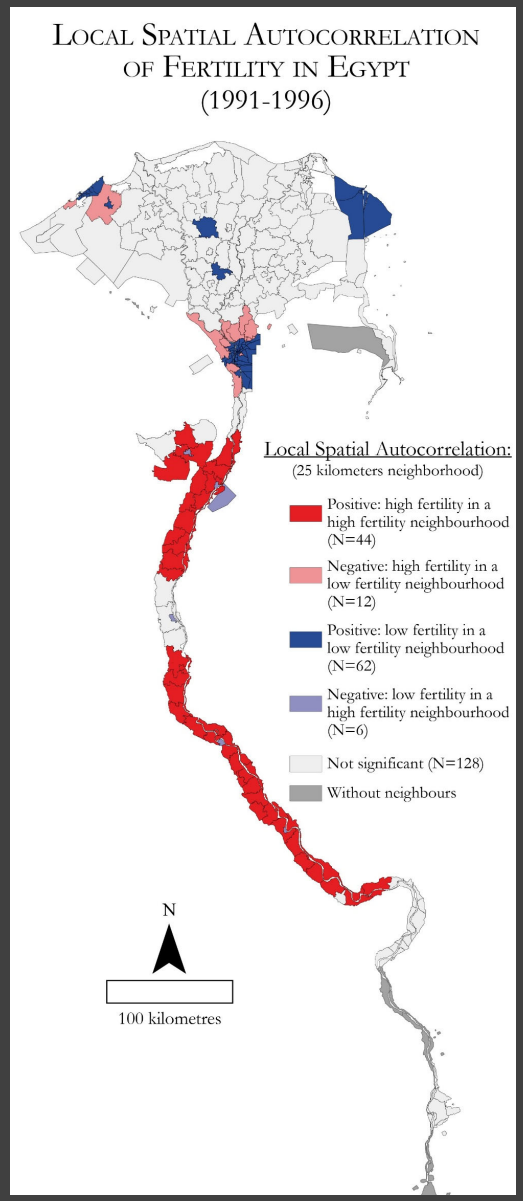
4 caractéristiques de la géographie de la transition de la fécondité en Egypte :

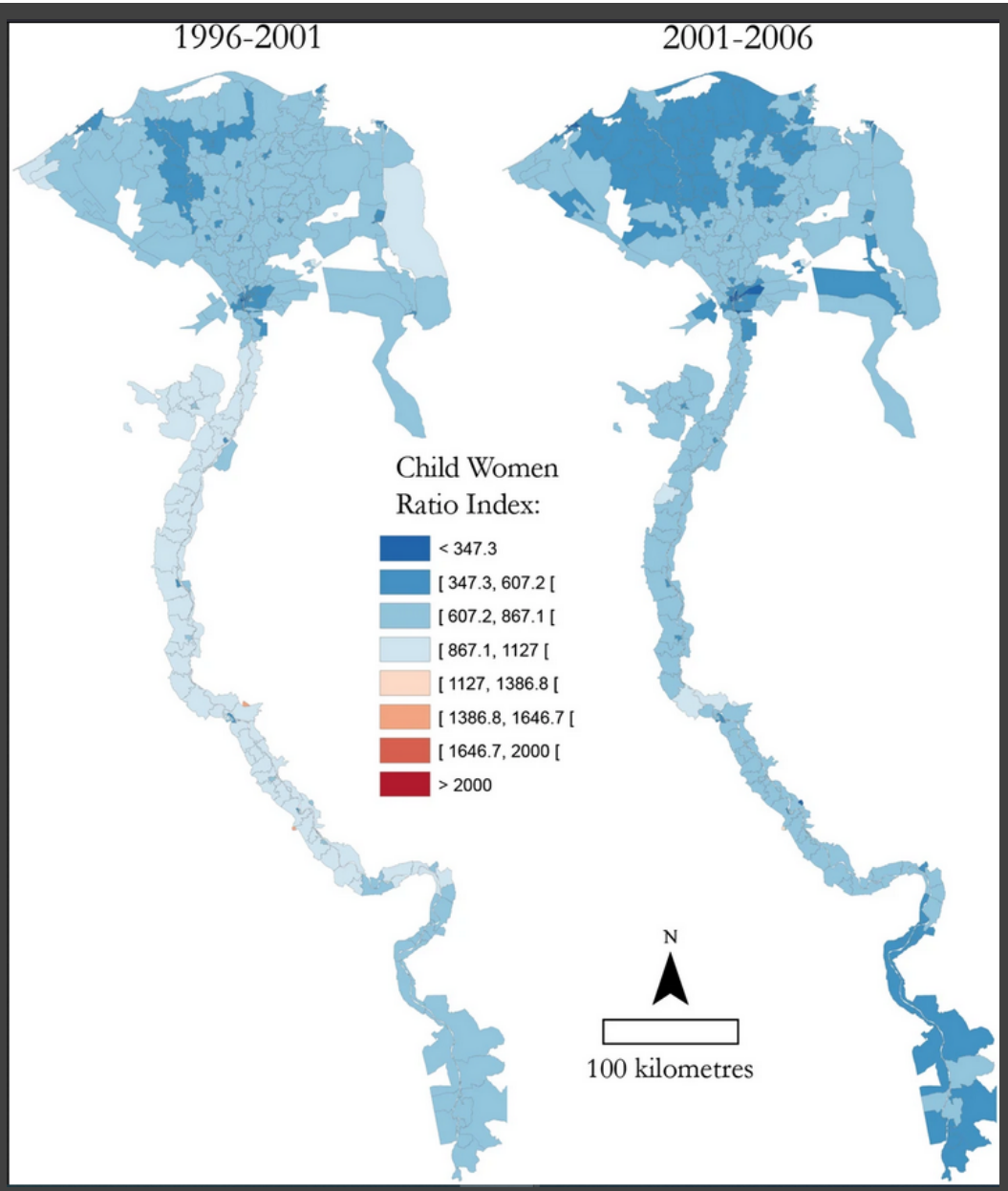
- Lieux où le contrôle de la fécondité apparaît
- Régions résistantes au changement démographique
- Deux mécanismes de diffusion spatiale : hiérarchique et proximité géographique
- Une augmentation de la fécondité dans les années 1970 et 1980


1971-1976
1976-1981
1981-1986
1986-1991
N
50 kilometres
Child Women Ratio Index:
< 347.3
[347.3, 607.2 [
[607.2, 867.1 [
[867.1, 1127 [
[1127, 1386.8 [
[1386.8, 1646.7 [
[1646.7, 2000 [
> 2000
Author: *** (2019)
Source: Population Census 1960 and 1976
©CEDEJ-CAPMAS/@Hala Bayoumi (dir.)- 2018


1966-1971
1971-1976
1976-1981
1981-1986
1986-1991
1991-1996
Child Women Ratio Index:
< 347.3
[347.3, 607.2 [
[607.2, 867.1 [
[867.1, 1127 [
[1127, 1386.8 [
[1386.8, 1646.7 [
[1646.7, 2000 [
> 2000
N
200 kilometres
Author: Doignon (2019)
Source: Population Census 1960, 1976, 1986, 1996, ©CEDEJ-CAPMAS/@Hala Bayoumi (dir.)- 2018


1991-1996
CWR
169,391398 - 347,329000
347,329001 - 607,203000
607,203001 - 867,076000
867,076001 - 1126,950000
1126,950001 - 1386,820000
1386,820001 - 1646,700000
1646,700001 - 2000,000000
2000,000001 - 10000,000000


Local Spatial Autocorrelation of Fertility in Egypt (1991-1996)
Local Spatial Autocorrelation:
(25 kilometers neighborhood)
Positive: high fertility in a high fertility neighbourhood (N=44)
Negative: high fertility in a low fertility neighbourhood (N=12)
Positive: low fertility in a low fertility neighbourhood (N=62)
Negative: low fertility in a high fertility neighbourhood (N=6)
Not significant (N=128)
Without neighbours
N
100 kilometres


1996-2001
2001-2006
Child Women
Ratio Index:
< 347.3
[347.3, 607.2 [
[607.2, 867.1 [
[867.1, 1127 [
[1127, 1386.8 [
[1386.8, 1646.7 [
[1646.7, 2000 [
> 2000
N
100 kilometres

CONCLUSIONS

- La baisse de la fécondité commence au Caire, mais pas uniquement
- Originalité de l'Egypte : augmentation de la fécondité à partir du milieu des années 1970, mais pas dans tous les territoires.
- Diffusion spatiale de la baisse de la fécondité en Egypte à travers 2 mécanismes : diffusion par proximité géographique et diffusion hiérarchique

Merci pour votre attention !

yoann.doignon@uclouvain.be

08/12/2022