

2013 Meeting of the Population Association of America

Session S107 : Fertility Transitions across Space and Time

The Diffusion of New Fertility  
Behaviours in Algeria:  
Geographical Changes Observed  
between 1987, 1998 and 2008 censuses

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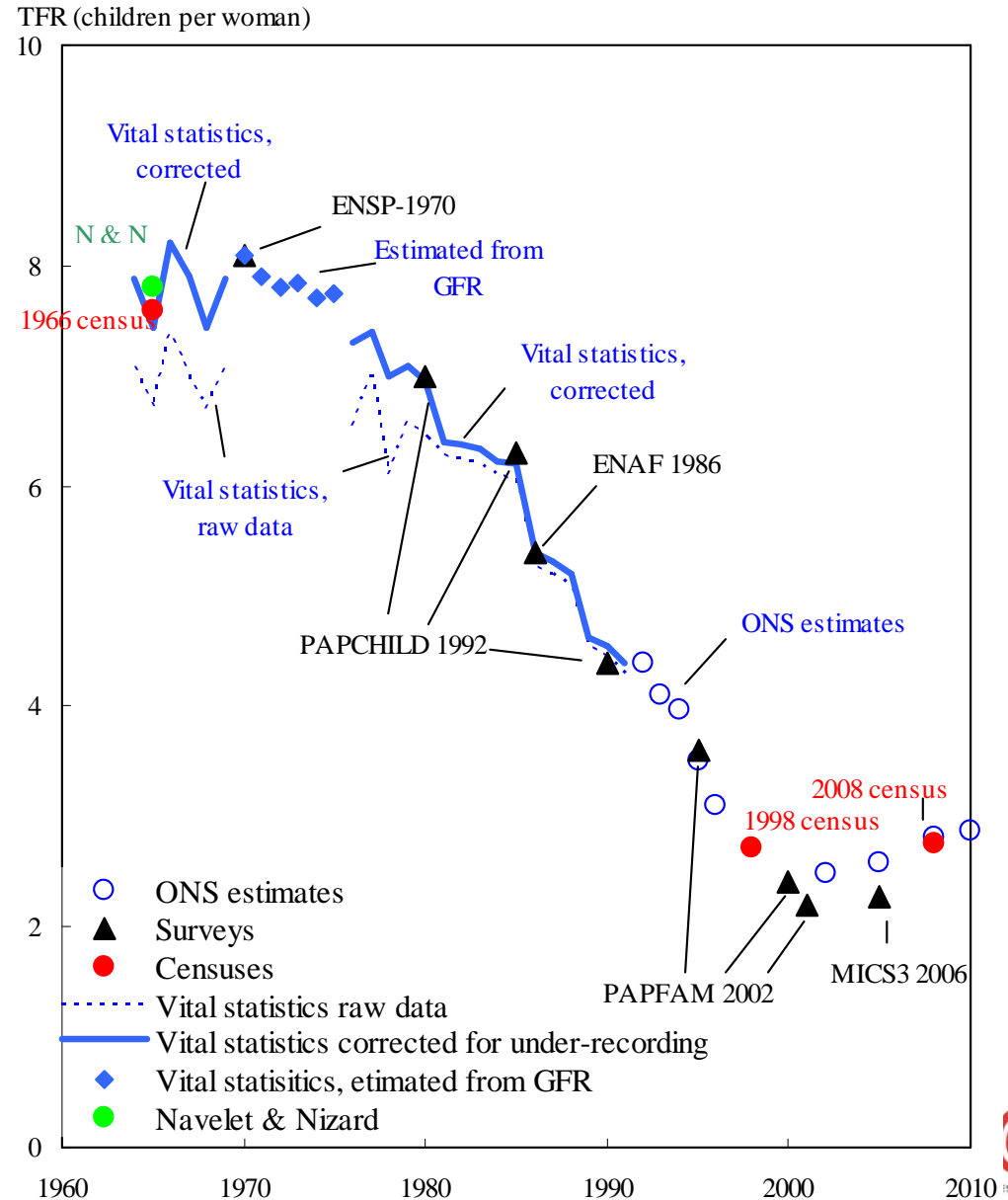
Unité de recherche Migrations et sociétés (URMIS), Université Paris Diderot

Institut national d'études démographiques (INED), Paris

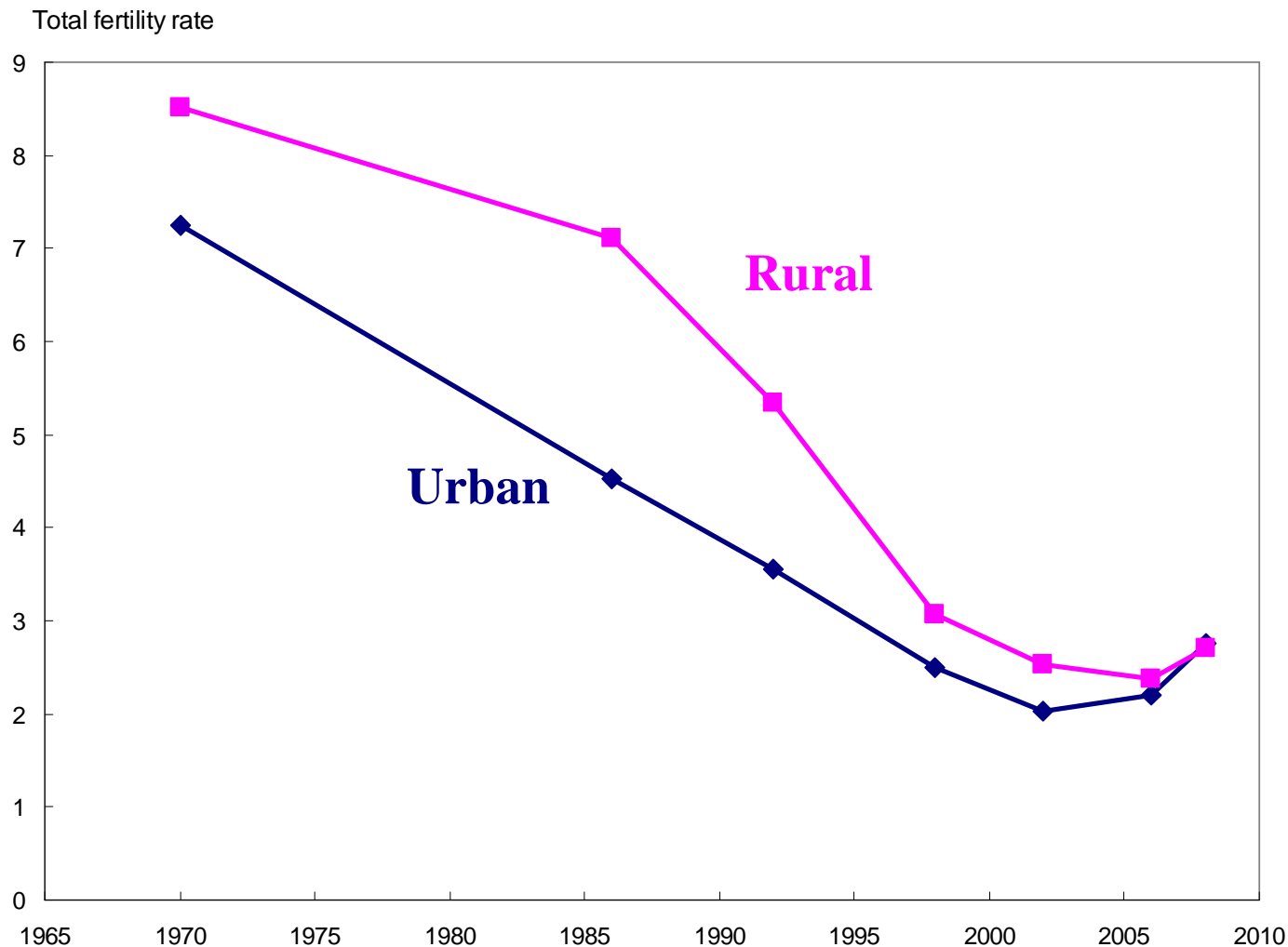
Direction de la population, Ministère de la santé, Alger

## Total fertility rate: *from 8 to 2 within 30 years*

In Algeria, Fertility rate fell dramatically from the mid 1970s to the end of the 1990s. Then, it increased during the last decade. We are interested here in the decrease: how it diffused over all the country?



# A first idea is given by comparing urban and rural areas

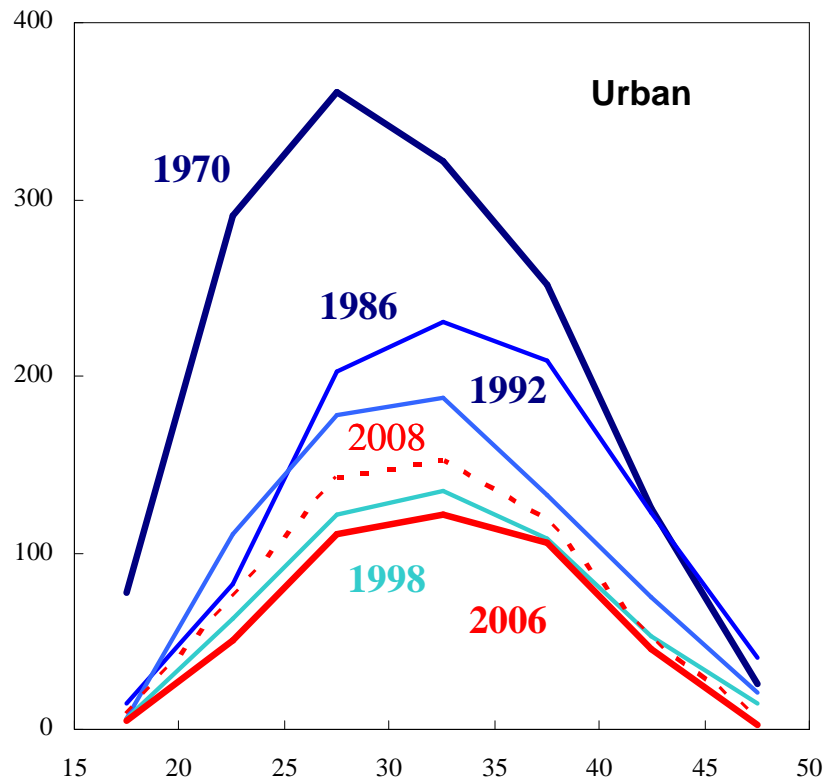


Cities started but rural areas caught them up very soon

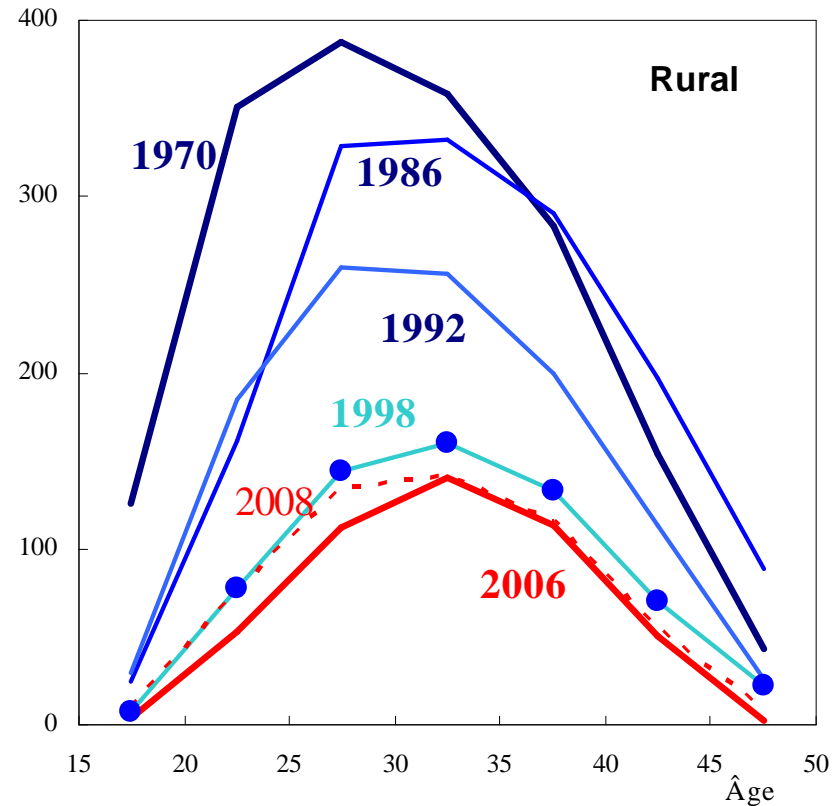
# Age specific fertility rates

*At the beginning, the shape of fertility curve changes more dramatically in cities but soon after, rural areas filled the gap*

Age specific fertility rate (p 1000)



Age specific fertility rate (p 1000)



It has been shown that, in Algeria, the first way to reduce fertility has been the rise in female age at first marriage.

## Three questions

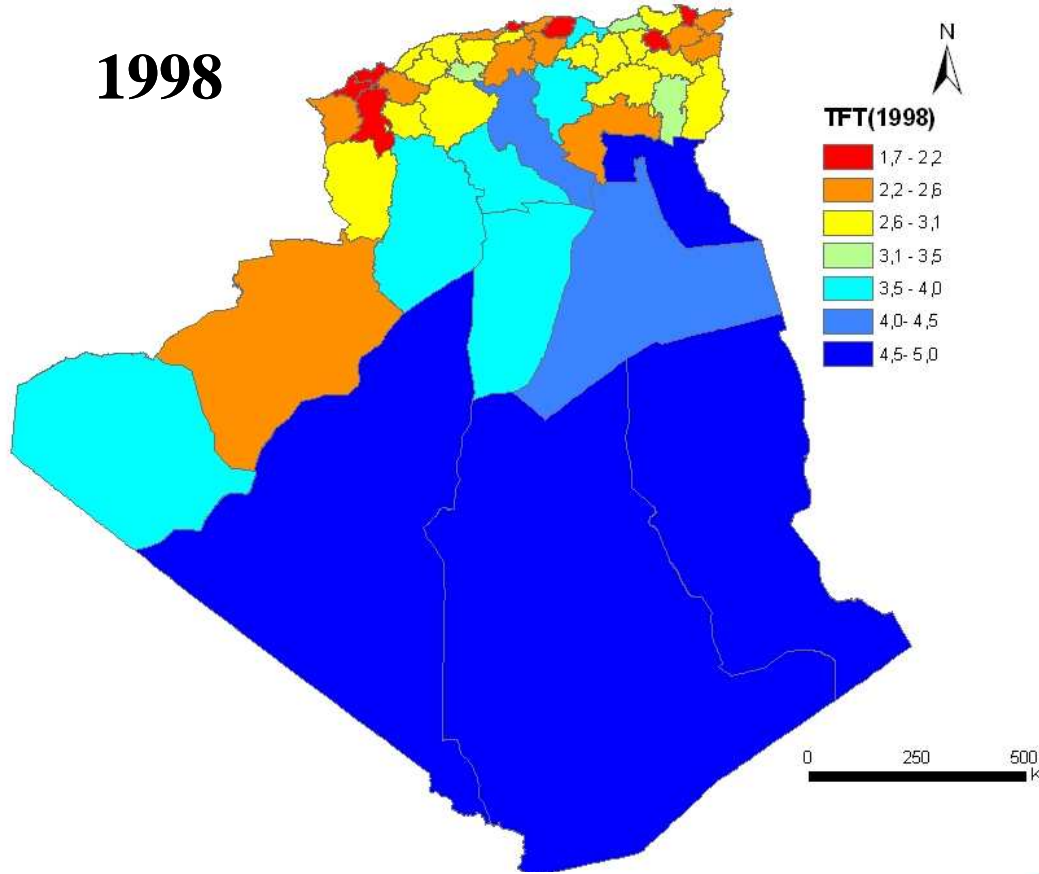
- 1. How fertility decline diffused over the whole Algerian territory?
- 2. Did increase in mean age at marriage, the first way of the fertility control, do the same?
- 3. Is there a geographical relation between fertility decline and female mean age at marriage rise?

# I. Fertility decline

- 1. Geographical differences in total fertility rate: at « *commune* » level data are available for a too recent period only (1998-2008, while fertility stopped to decline and rose)
- 2. Parity at age 35-39 may serve as a good proxy to investigate previous period of decline

# 1. The recent fertility rise 1998-2008

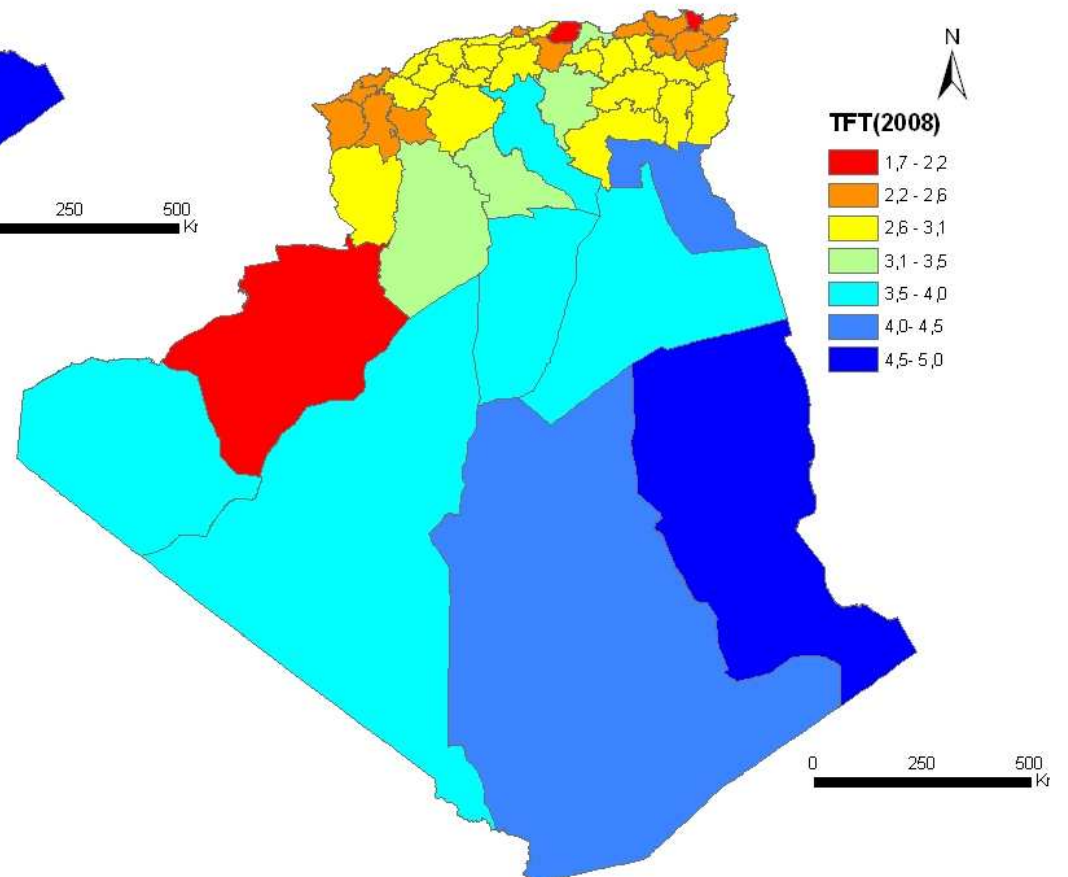
1998



Total fertility rate

By wilayates

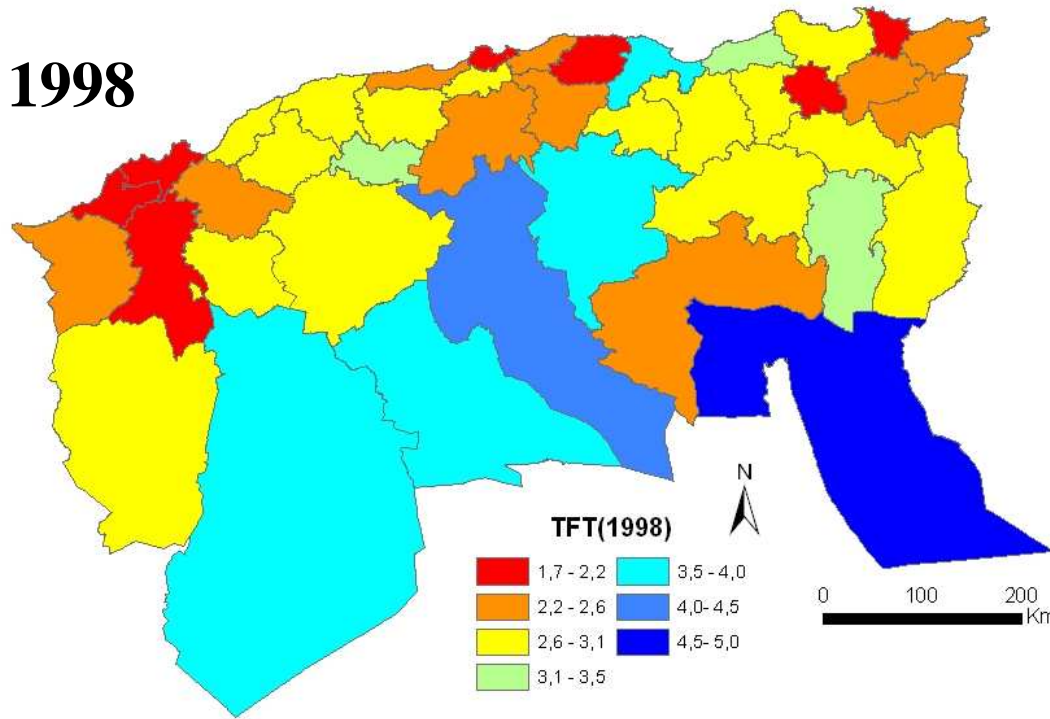
2008



All Algeria

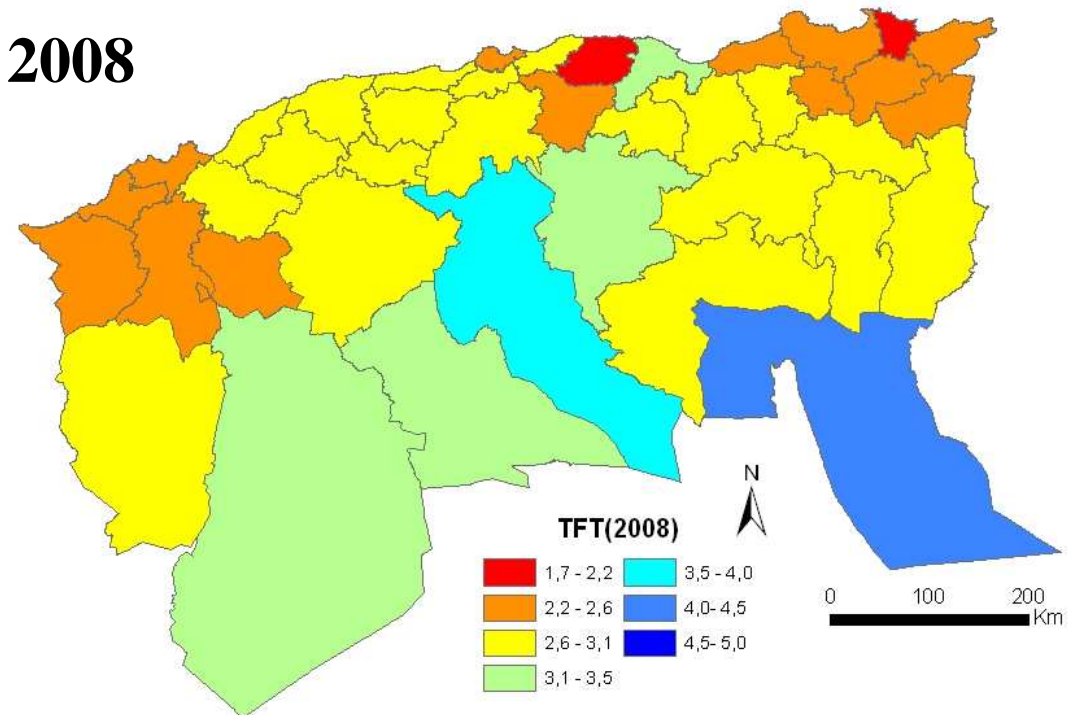


1998



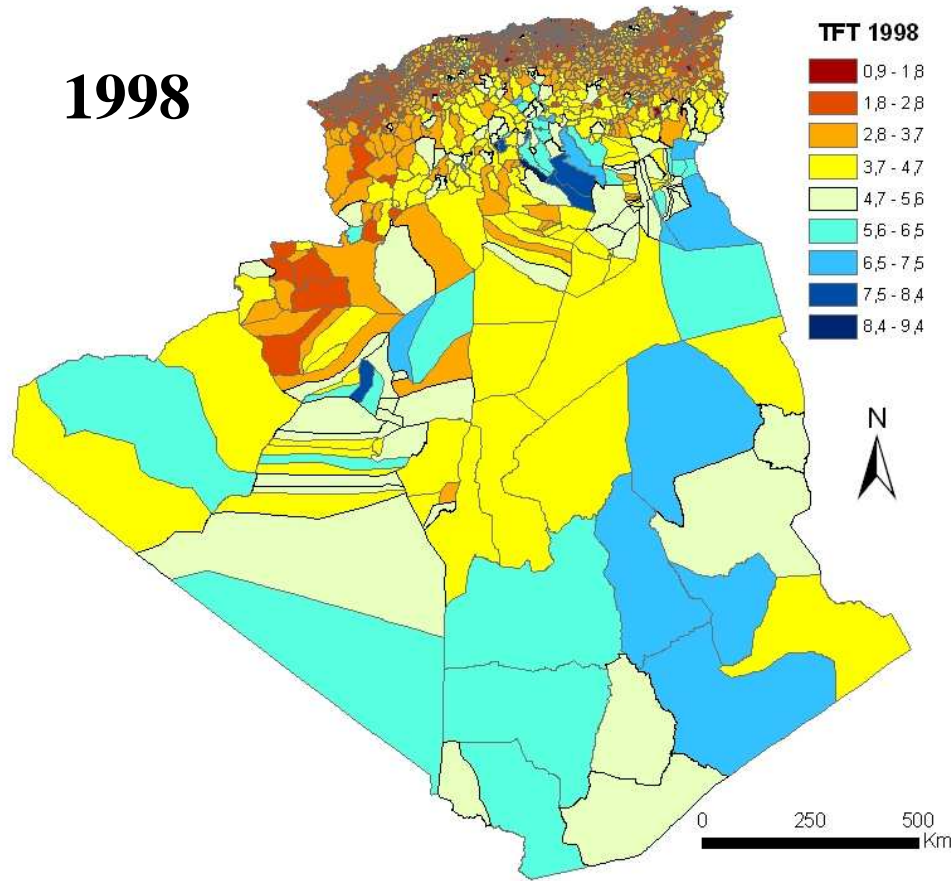
Total fertility  
rate  
By wilayates

2008



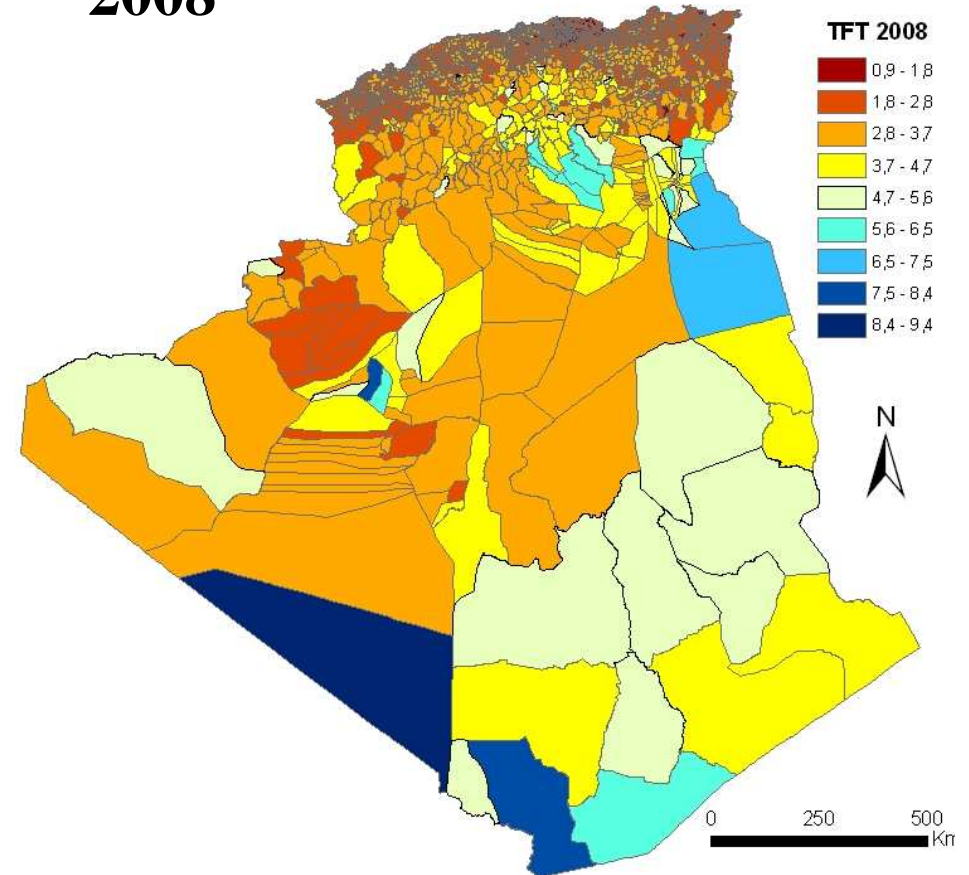
Northern part  
of Algeria

1998



# Total fertility rate By communes

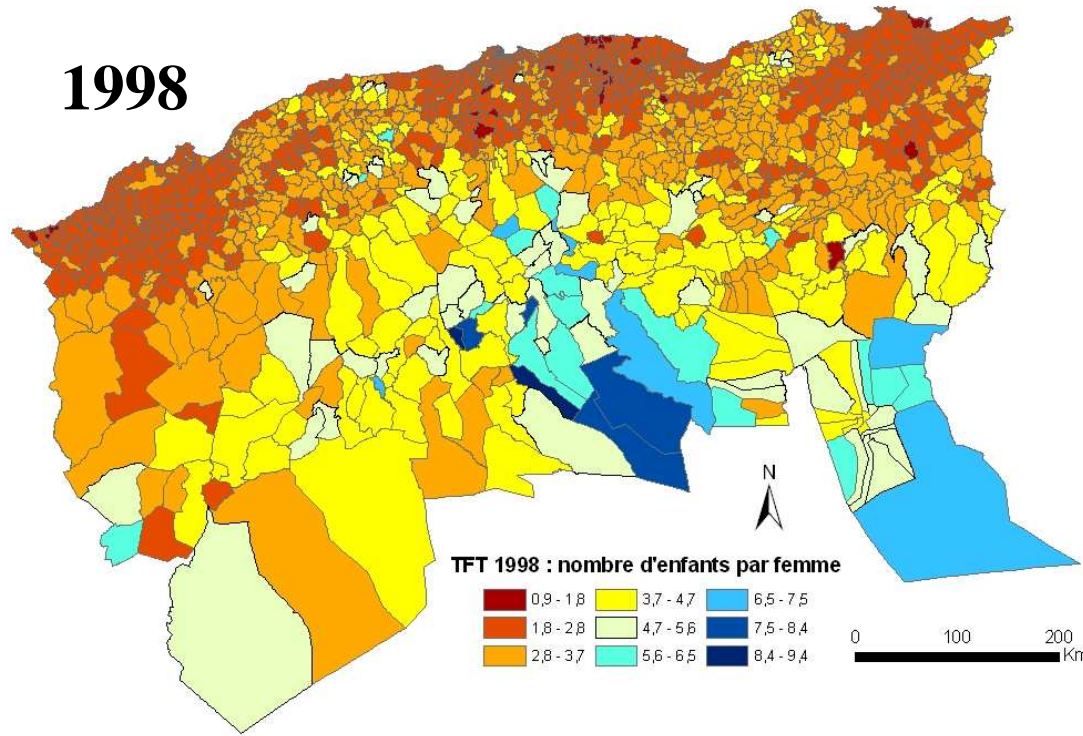
2008



All Algeria

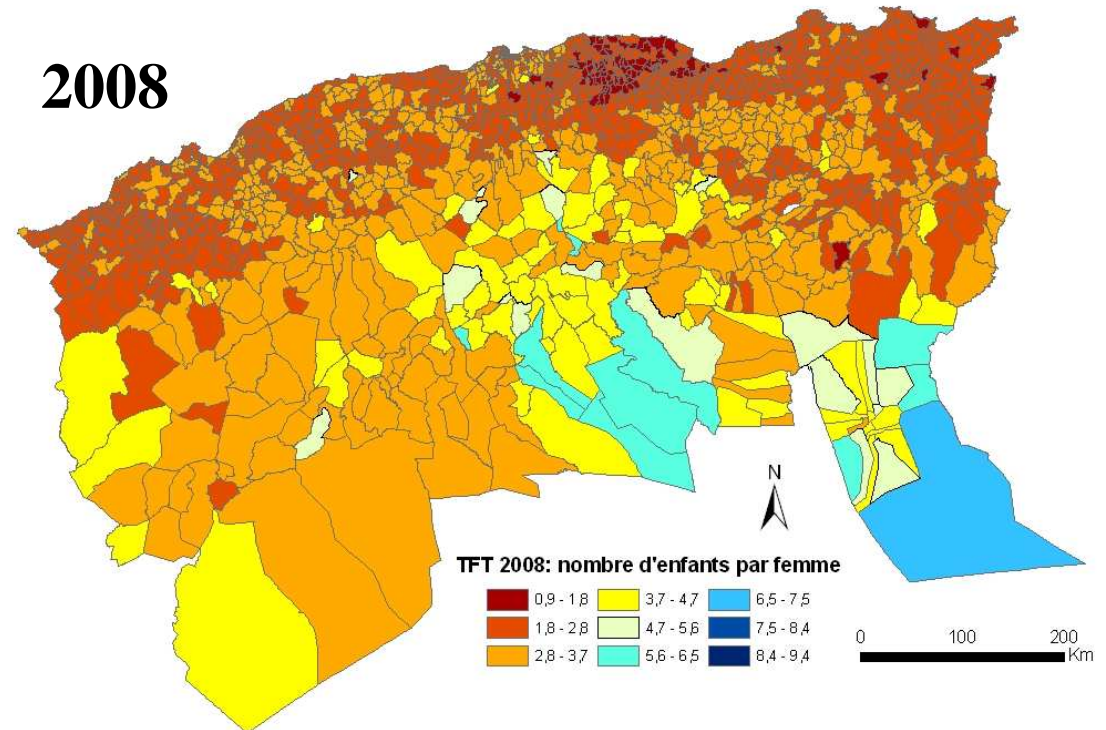


1998



Total fertility rate  
By communes

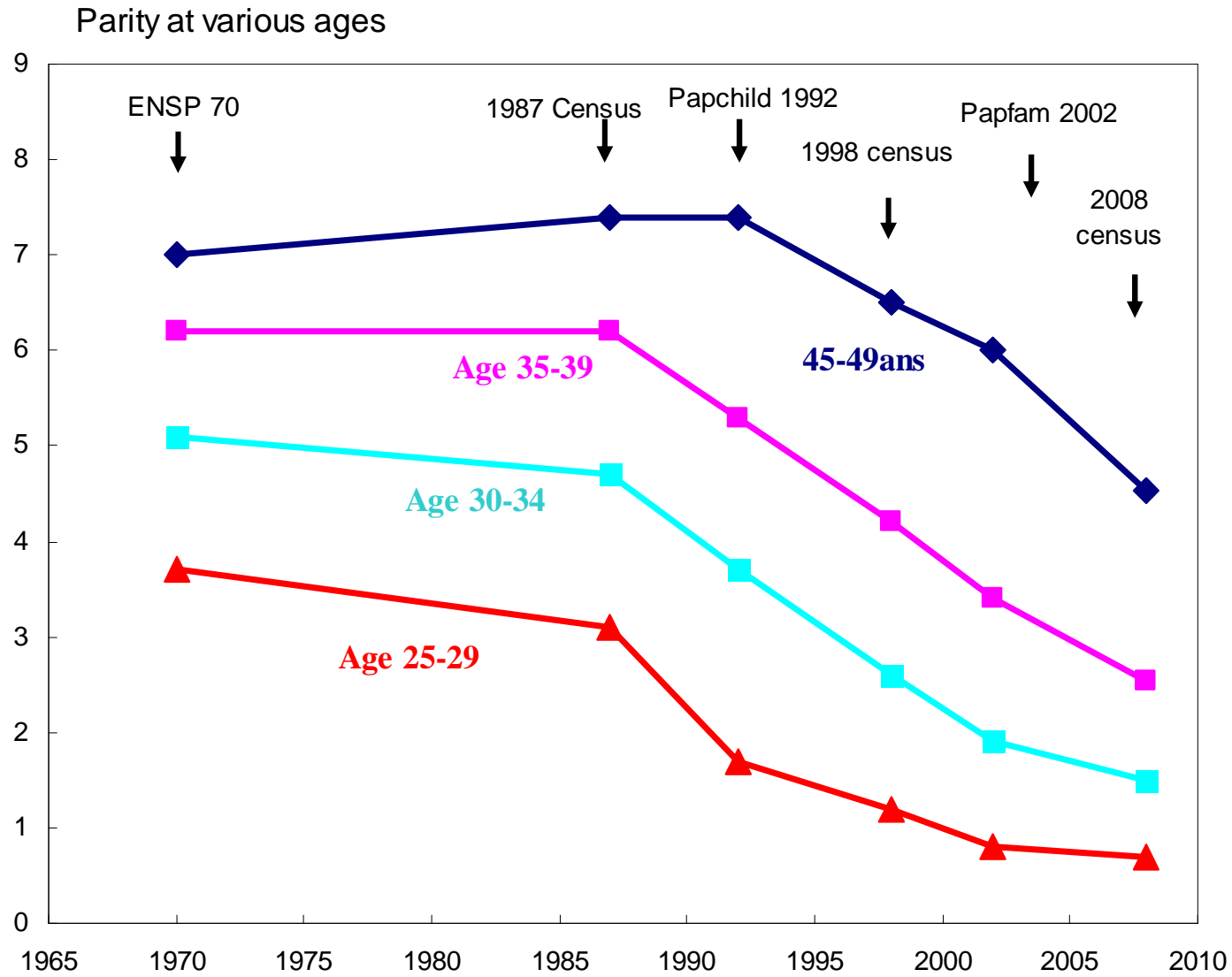
2008



Northern  
Algeria

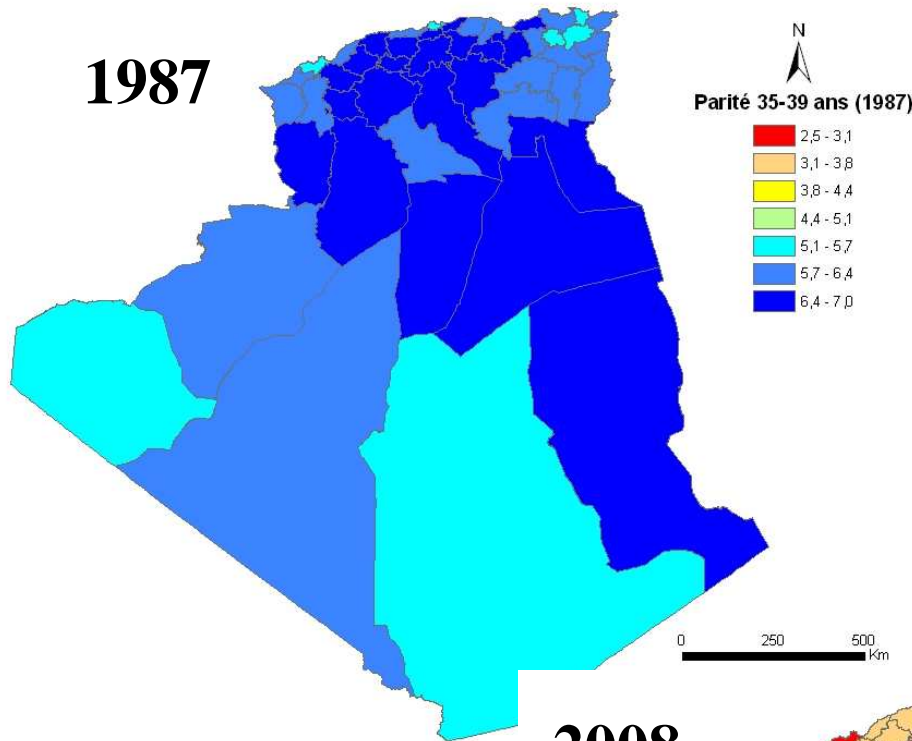
2. Parity at age 35-39 as better indicator of the rapid fertility decline, not only when TFR still fell dramatically (1987-1998) but also when TFR trends reversed already (1998-2008)

# Parities at various ages

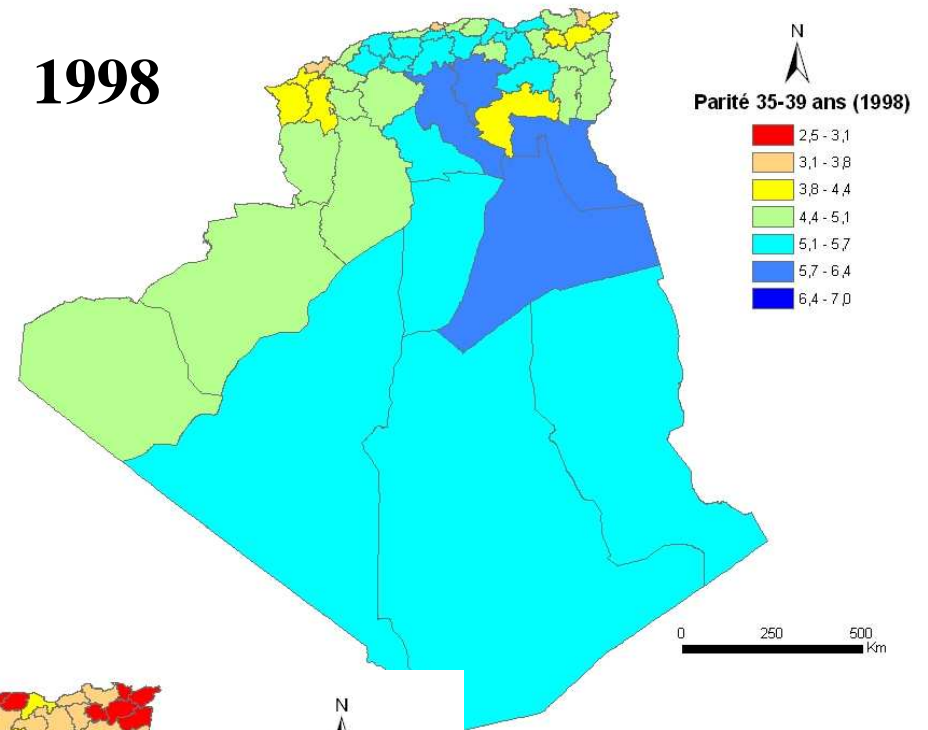


Parity at age 35-39 appears to be the best to follow fertility trends

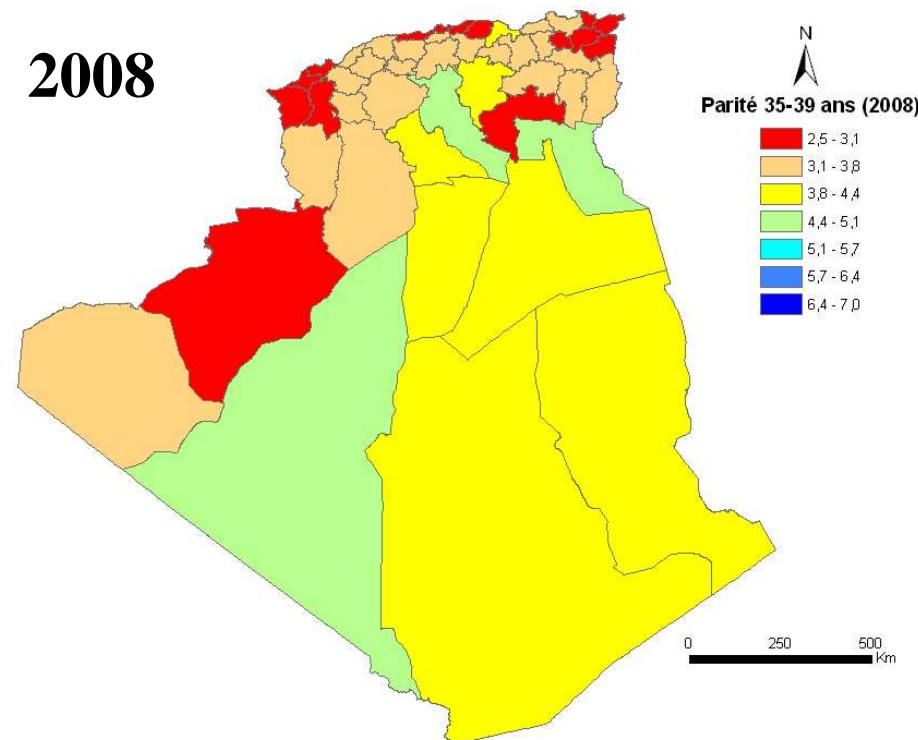
1987



1998



2008

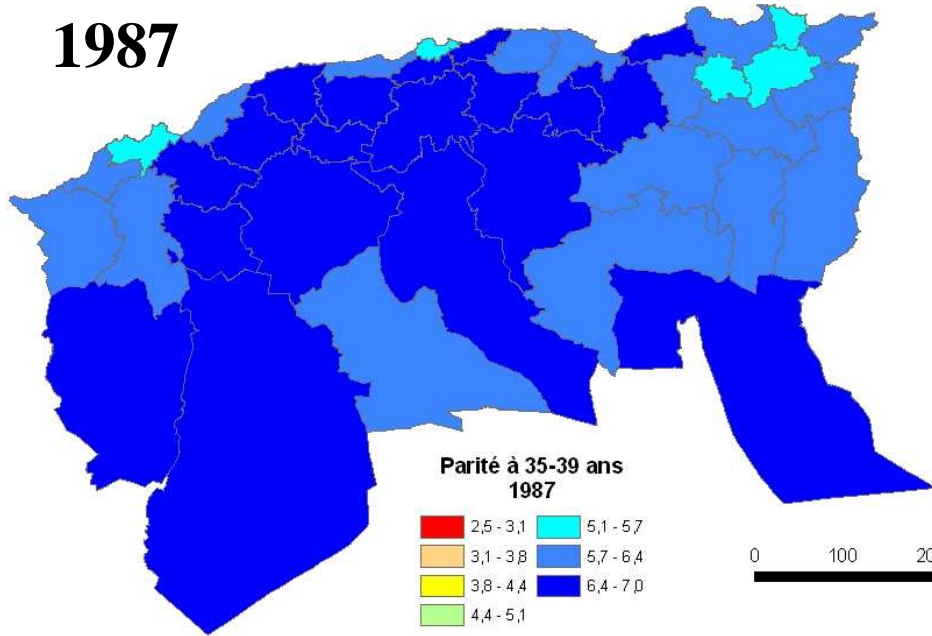


Parity at age  
35-39 by  
wilayate  
Whole Algeria

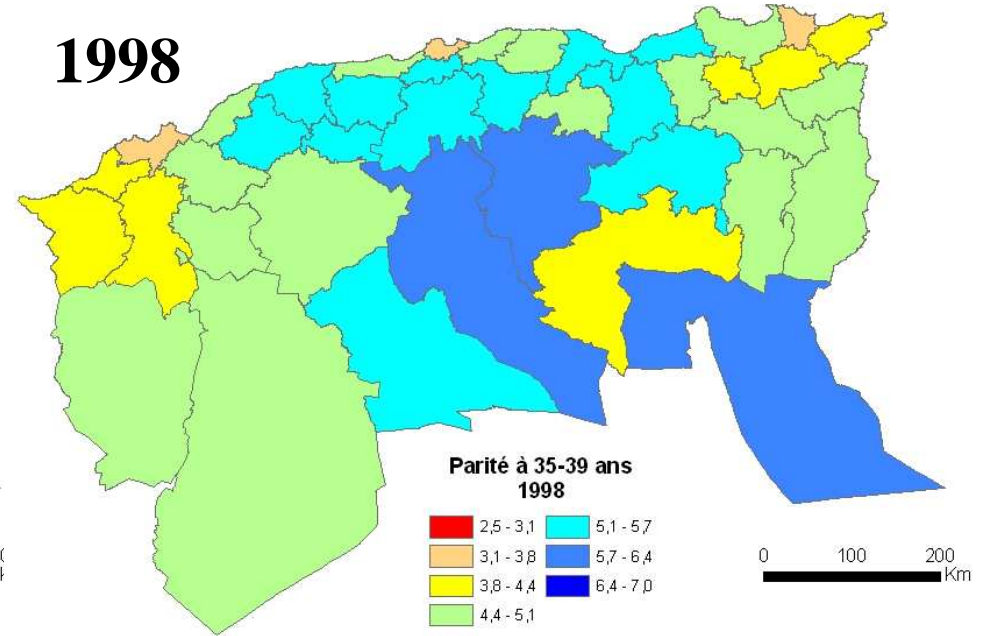


# Parity at age 35-39 by Wilayate

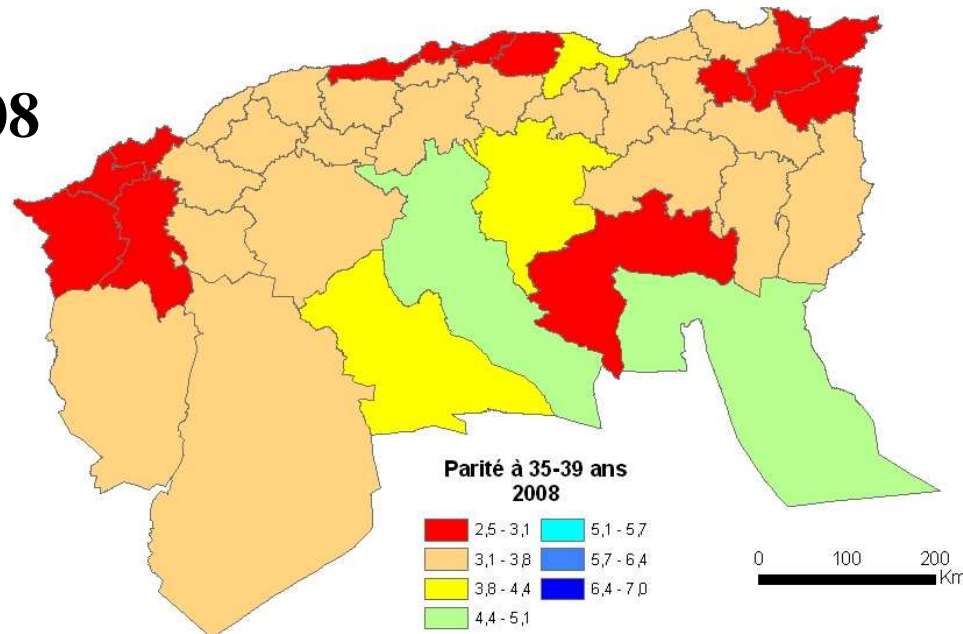
1987



1998

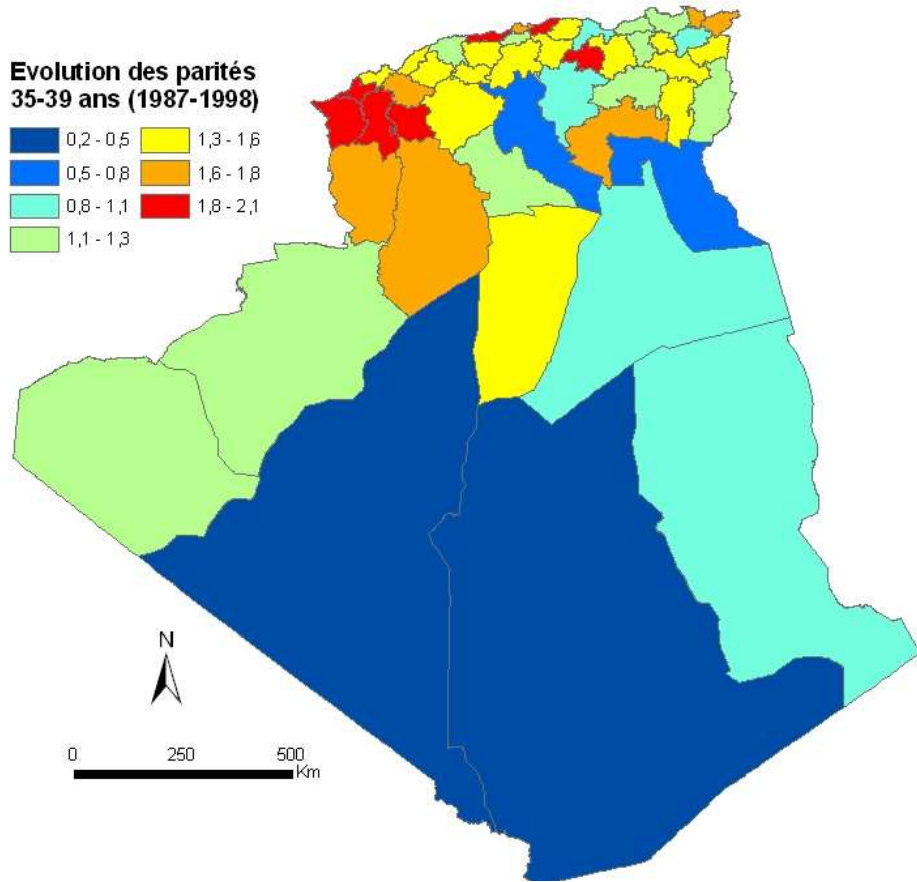


2008



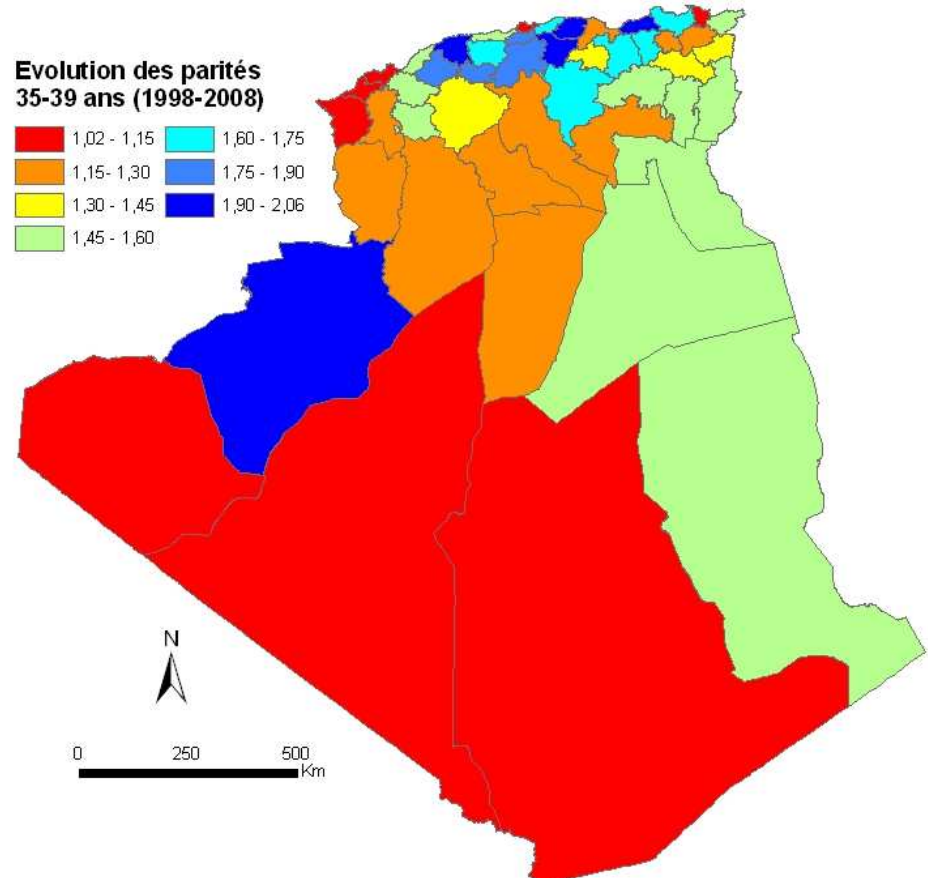
Northern  
Algeria

1987-1998



# Changes in parities at age 35-39 by wilayate

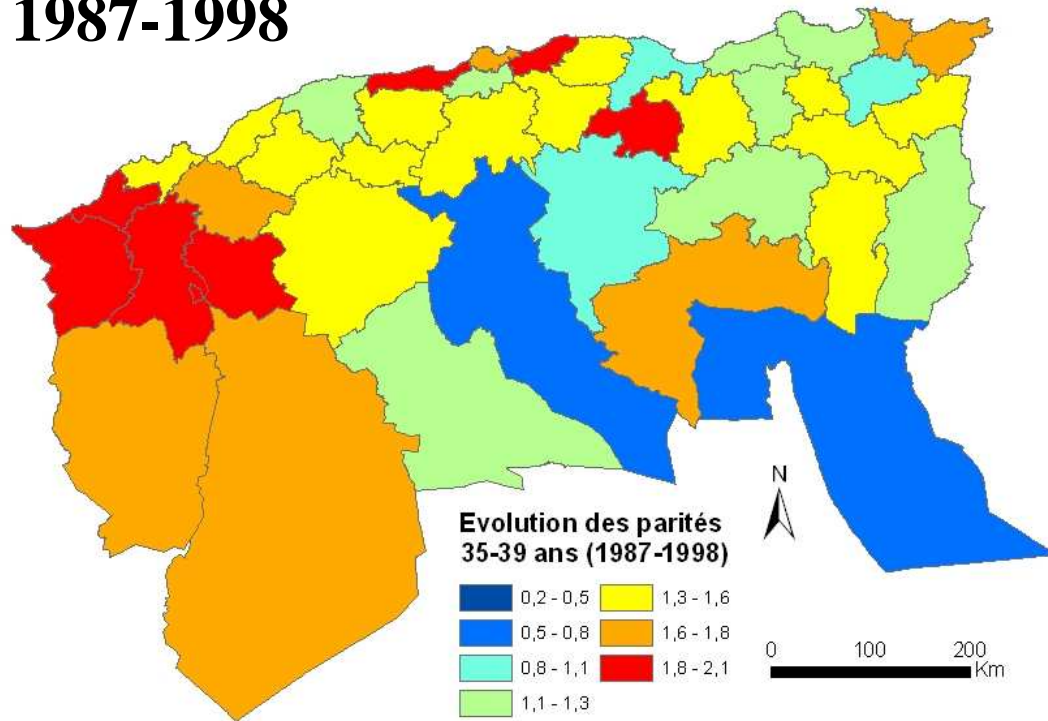
1998-2008



All Algeria

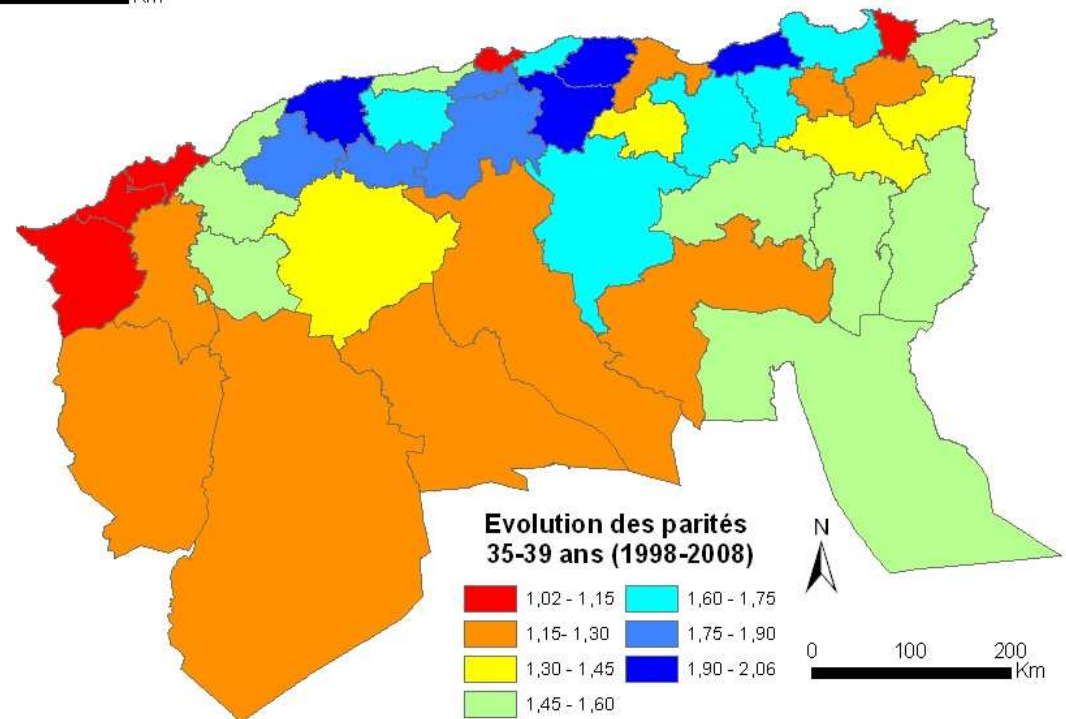


1987-1998



Changes in parities at age 35-39 by wilayate

1998-2008

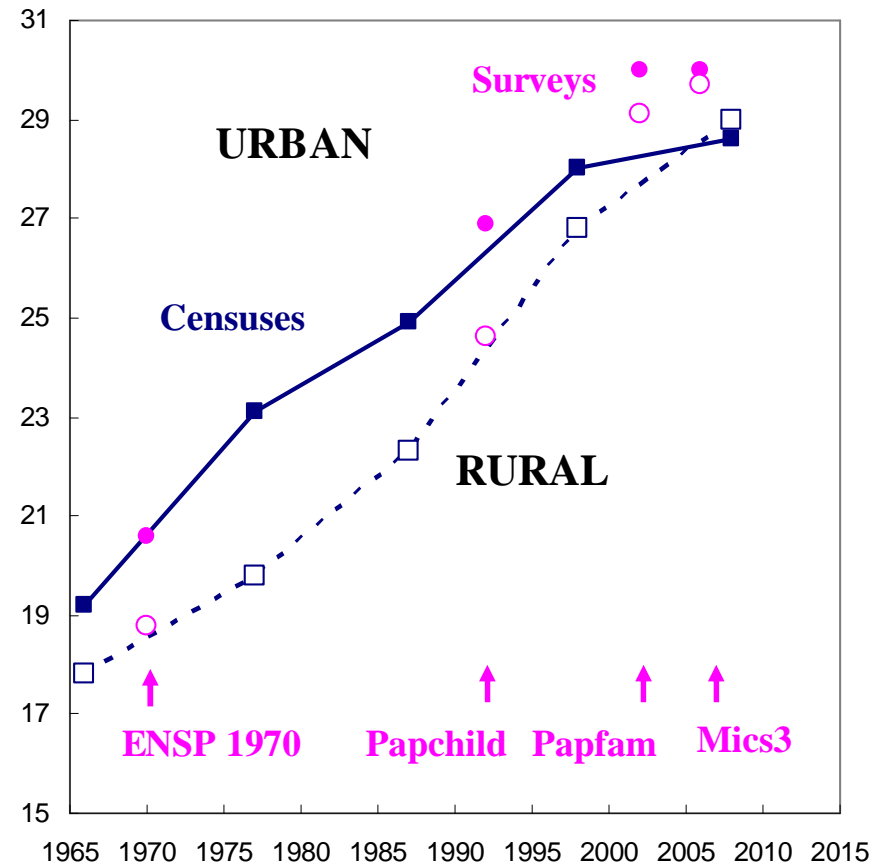
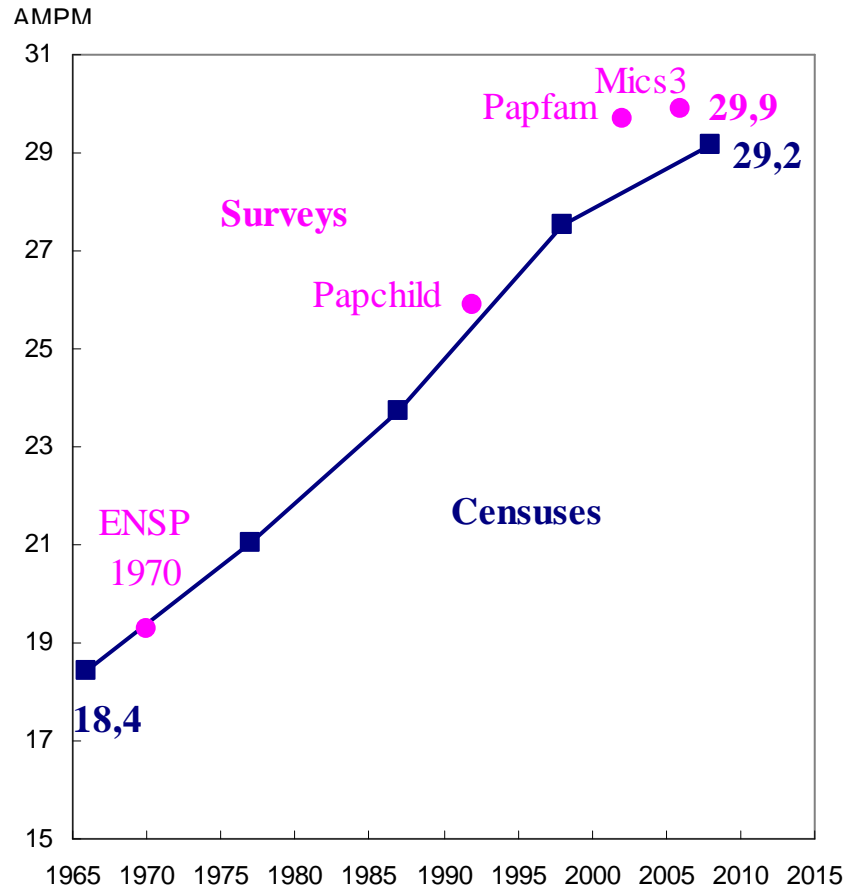


Northern  
Algeria

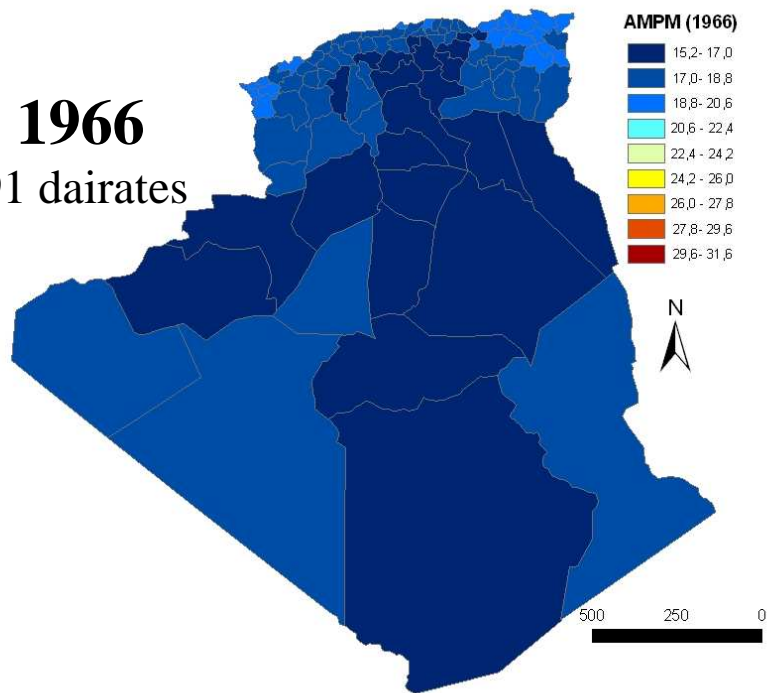
## II. The rise of age at marriage

- Historical data easier to access (marital status at censuses)
- Differences at the *wilayate* level, from 1966 to 2008 can be mapped at wilayate level
- Differences at the *commune* level in 1998

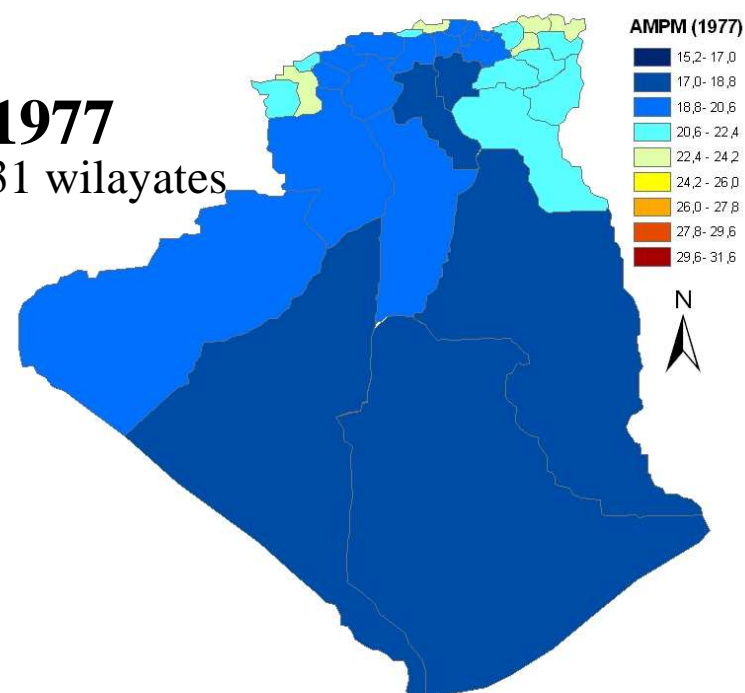
# Trends in female mean age at first marriage (Hajnal method)



**1966**  
91 dairates

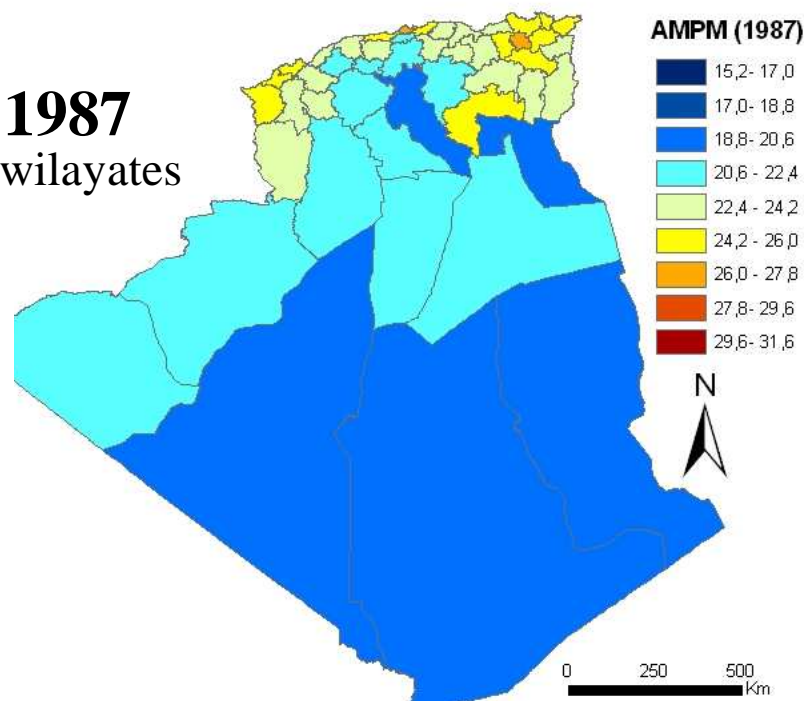


**1977**  
31 wilayates

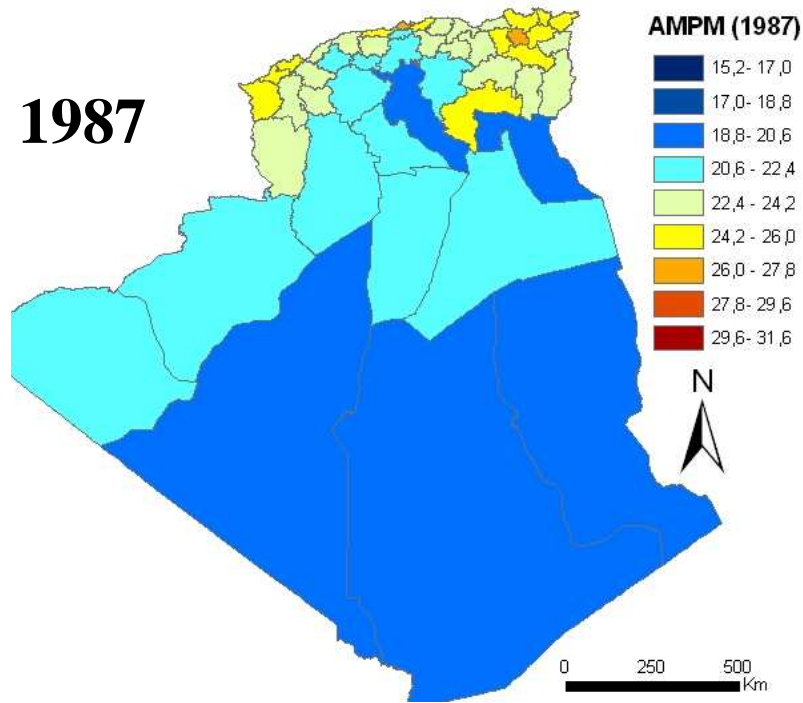


**Female mean  
age at first  
marriage by  
wilayate  
whole Algeria**

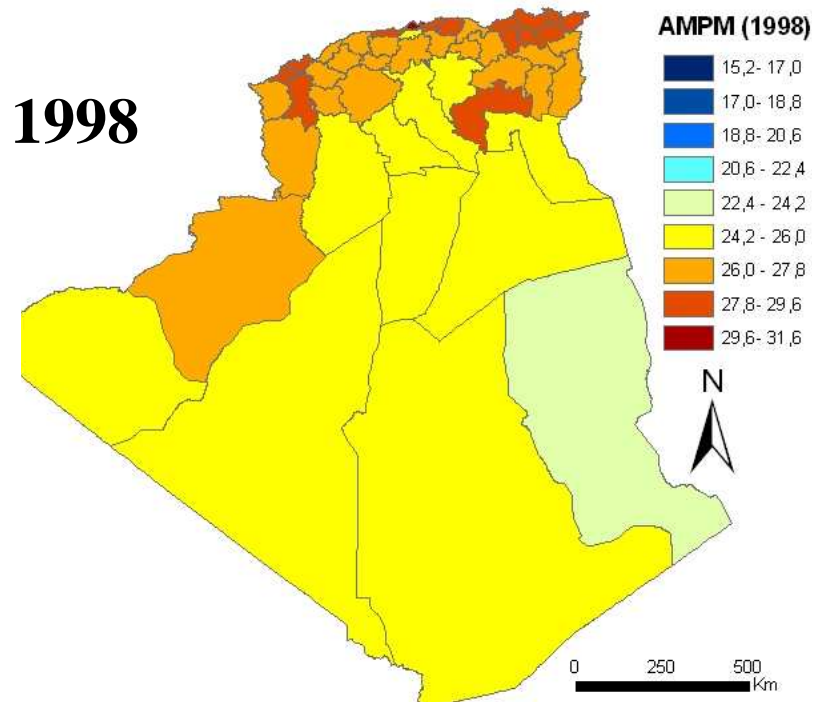
**1987**  
48 wilayates



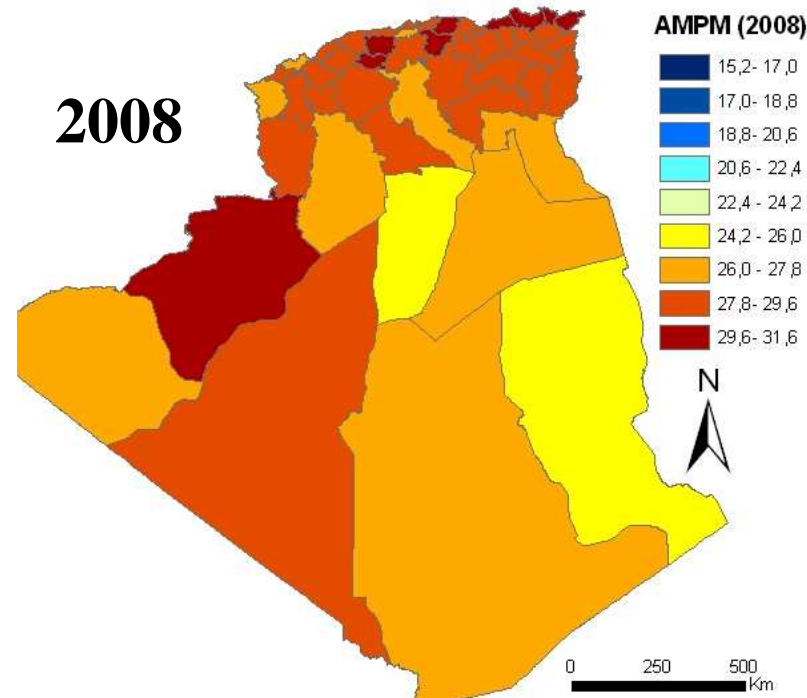
1987



1998



2008



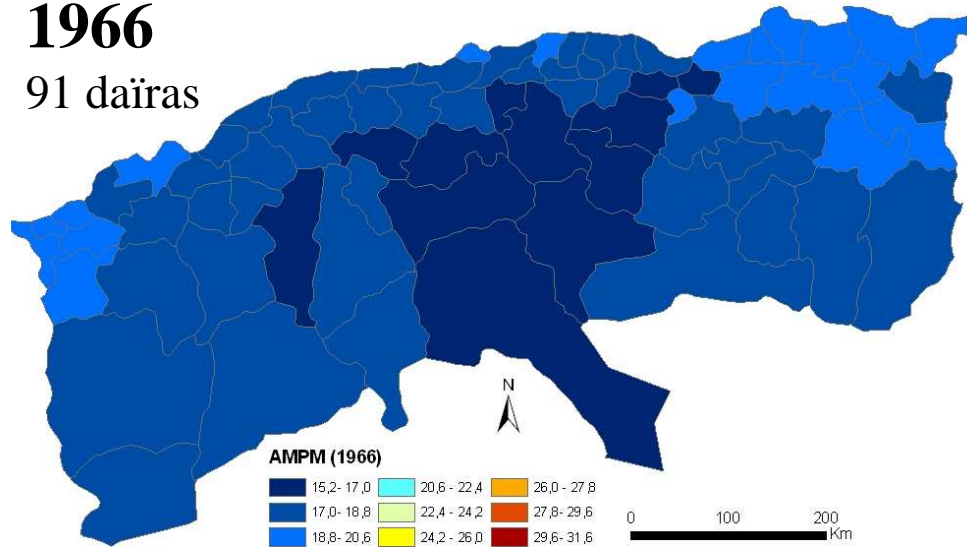
Female mean age  
at first marriage  
by wilayate  
Whole Algeria



# Female mean age at first marriage

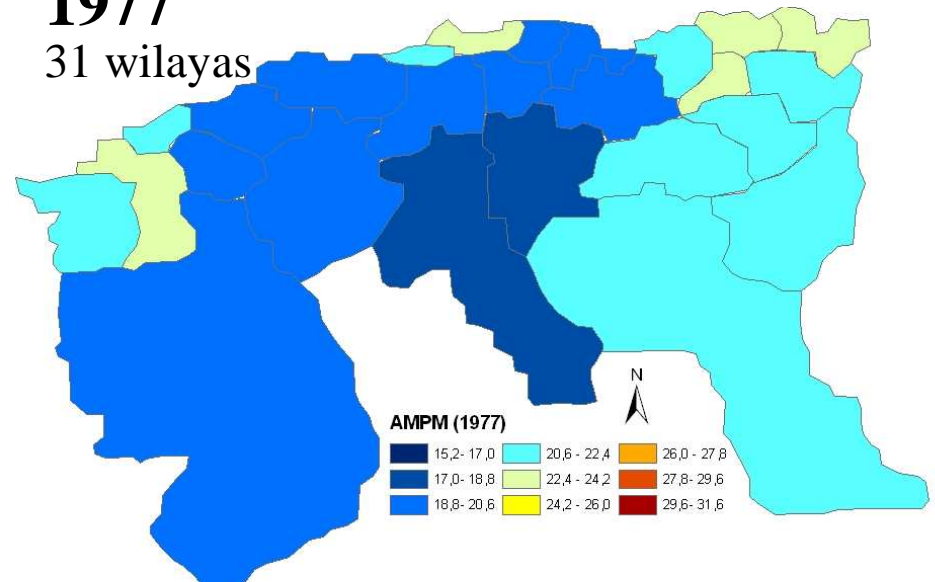
1966

91 daïras



1977

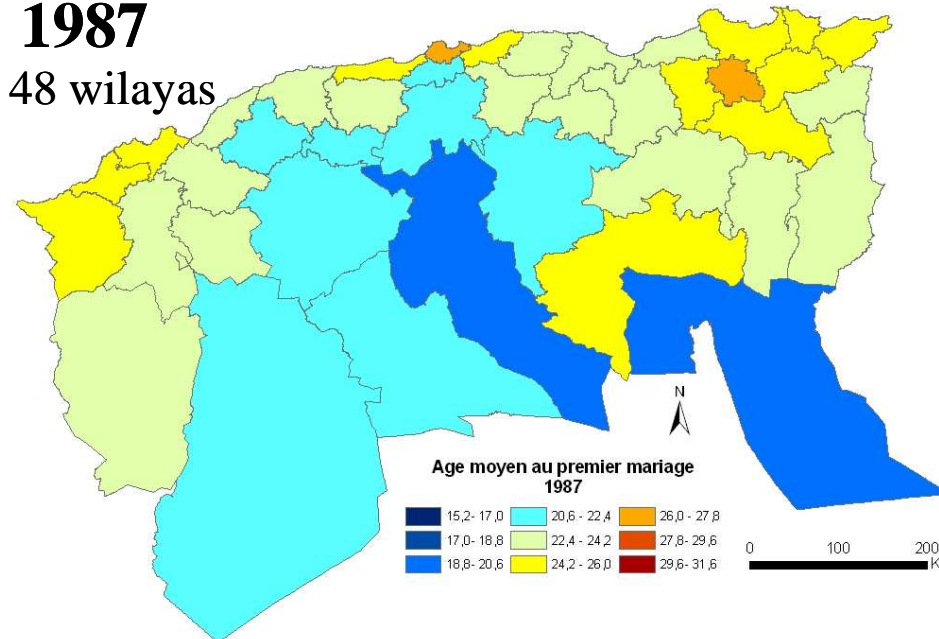
31 wilayas



Northern  
Algeria

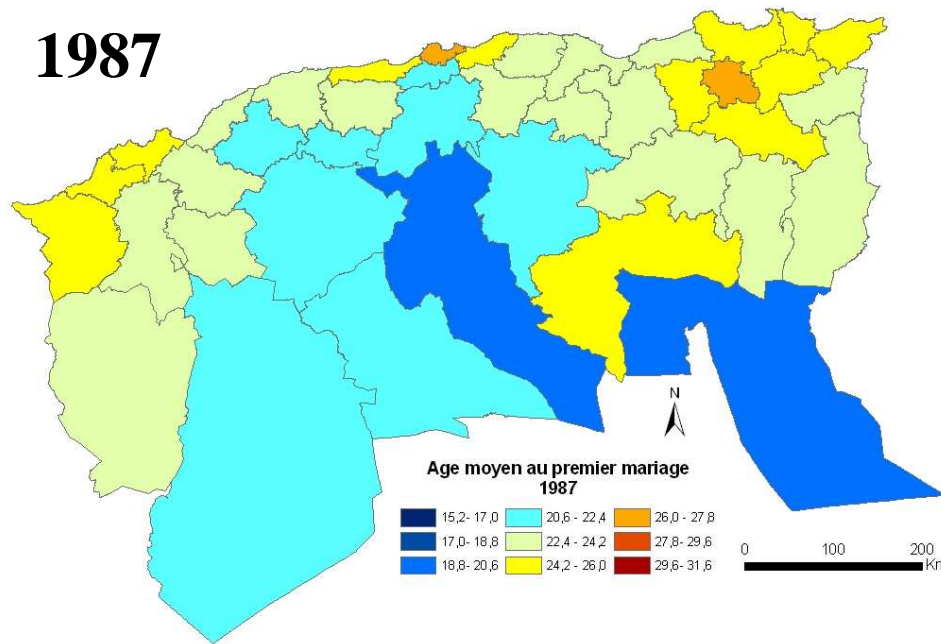
1987

48 wilayas

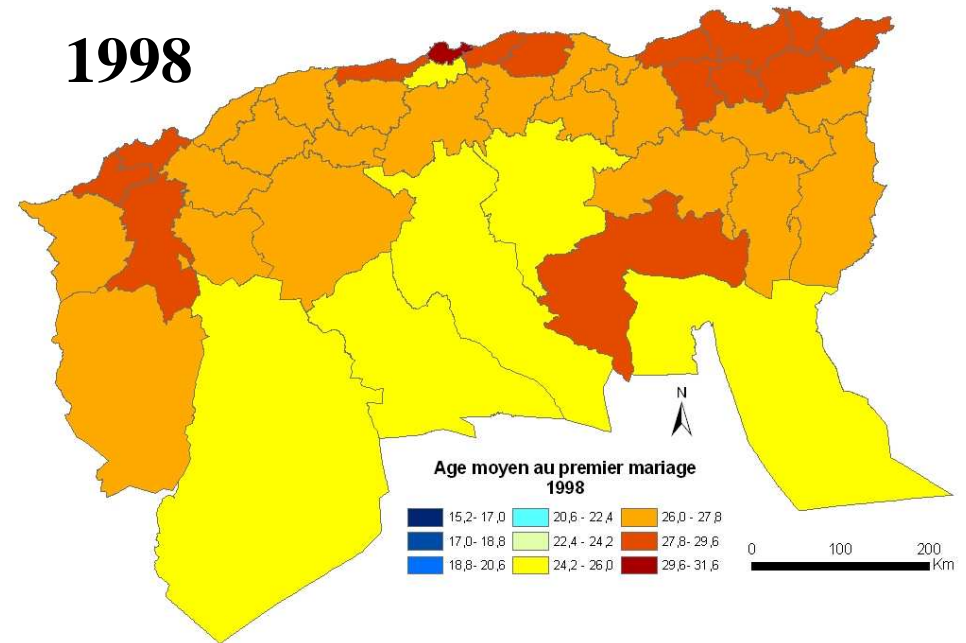


# Female mean age at first marriage

1987

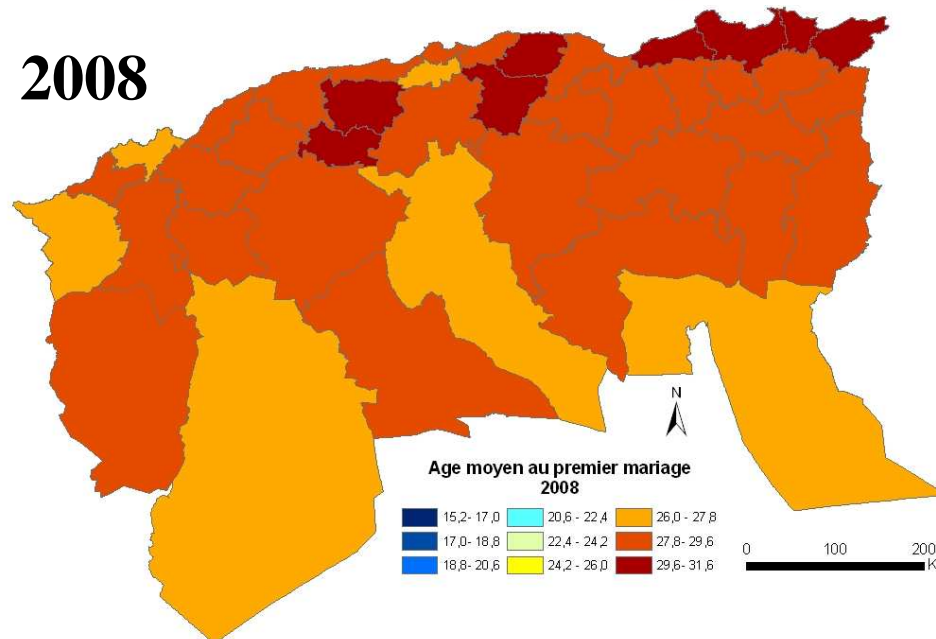


1998



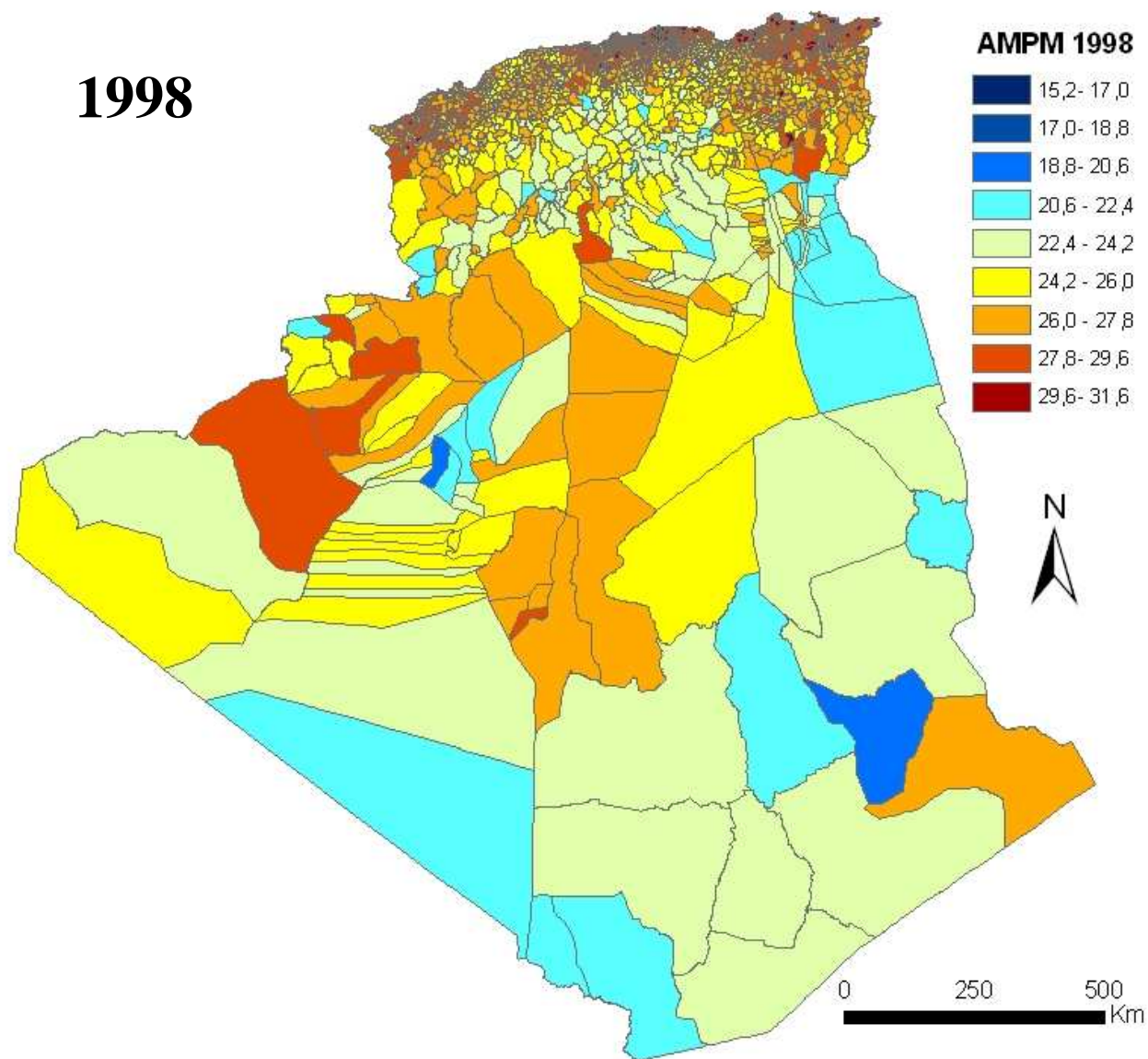
Northern  
Algeria

2008



# Female mean age at first marriage

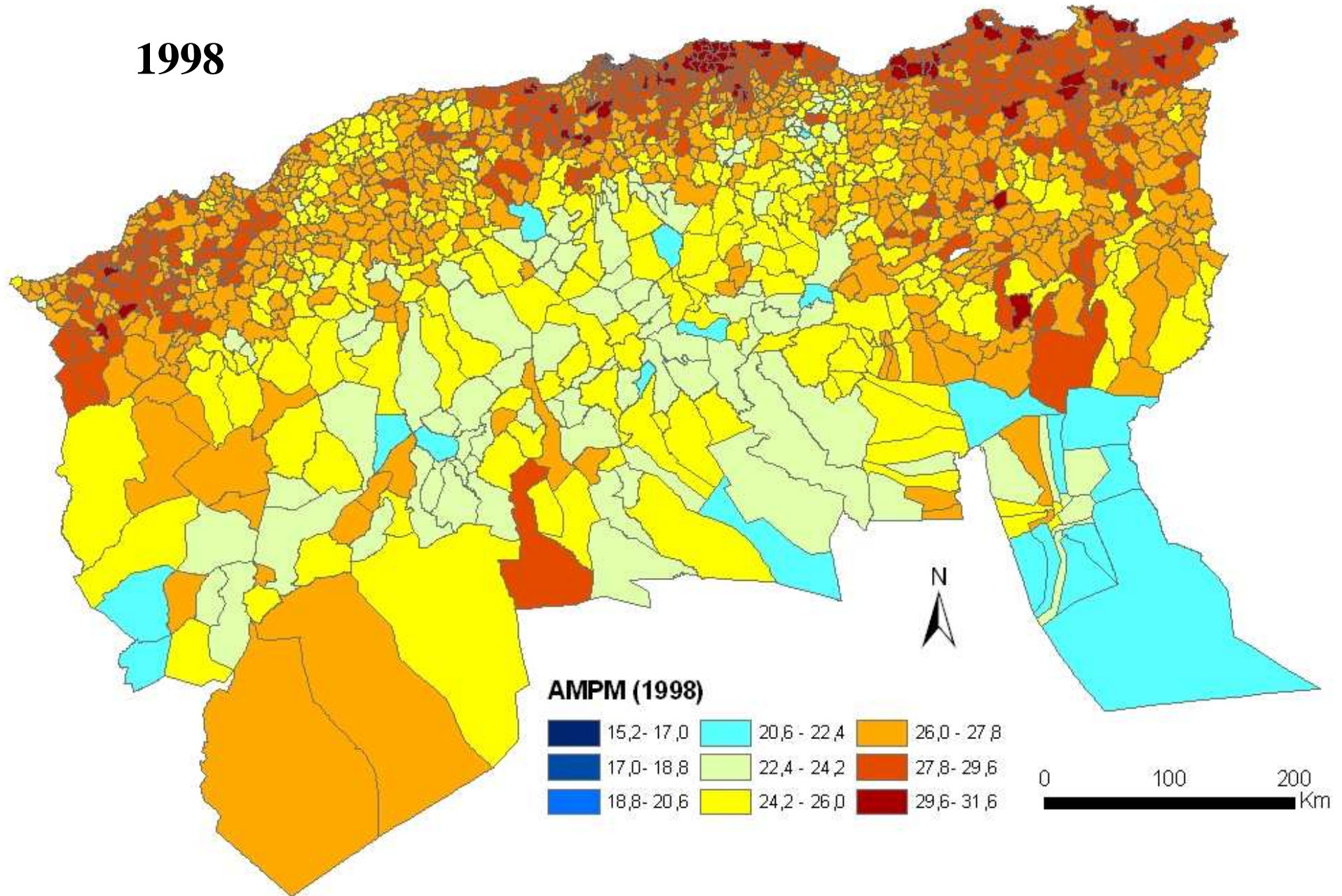
1998





# Female mean age at first marriage, by commune

1998



# III. Correlation between age at marriage and fertility

## 1. All Algeria

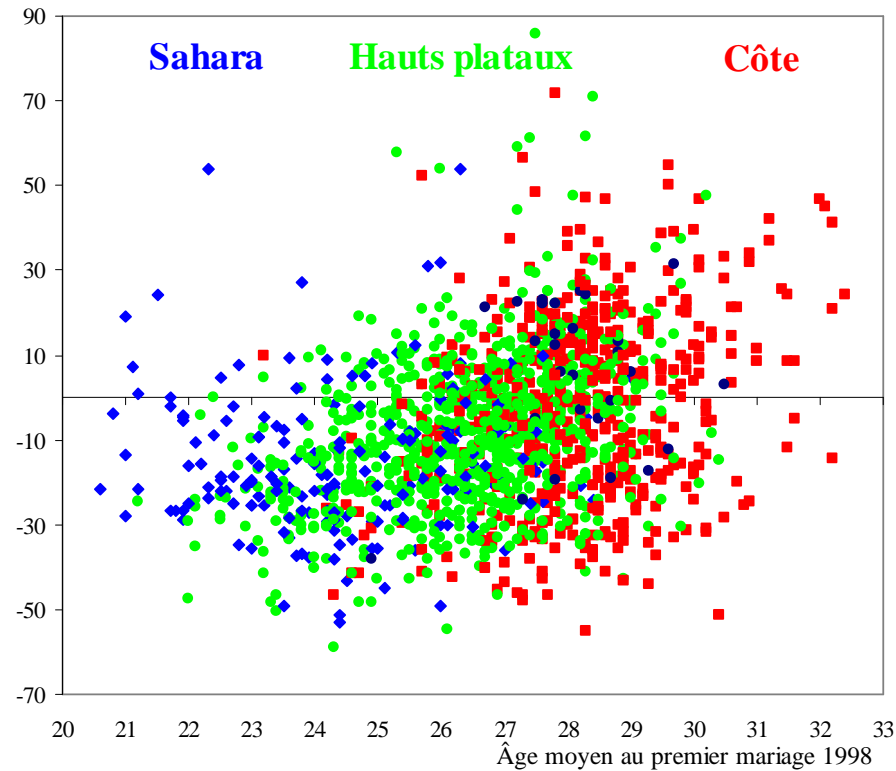
- TFT is available for the all 1541 Algerian *communes* level, only for 1998 and 2008.
- Let us compare the 1998-2008 fertility rise by commune
  - to the 1998 mean age at marriage,
  - and to 1998 TFR

## 2. Central Algeria only (8 wilayate)

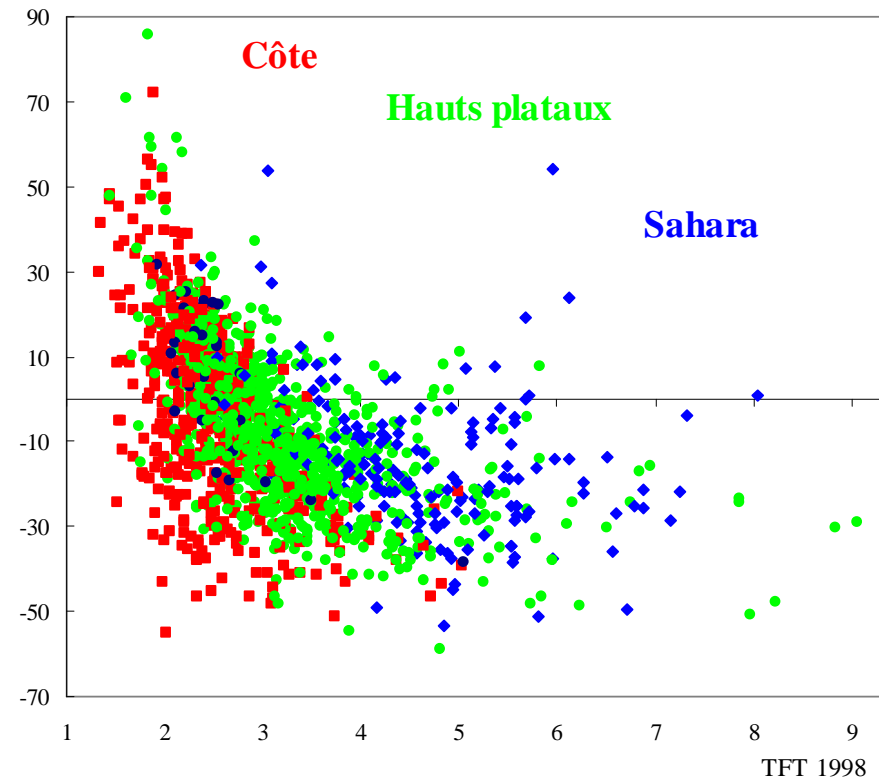
- 1998-2008 changes by *commune*

# 1. Recent TFR rise was less correlated to 1998 age at marriage than to the 1998 TFR itself

Evolution du TFR 1998-2008



Evolution du TFR 1998-2008



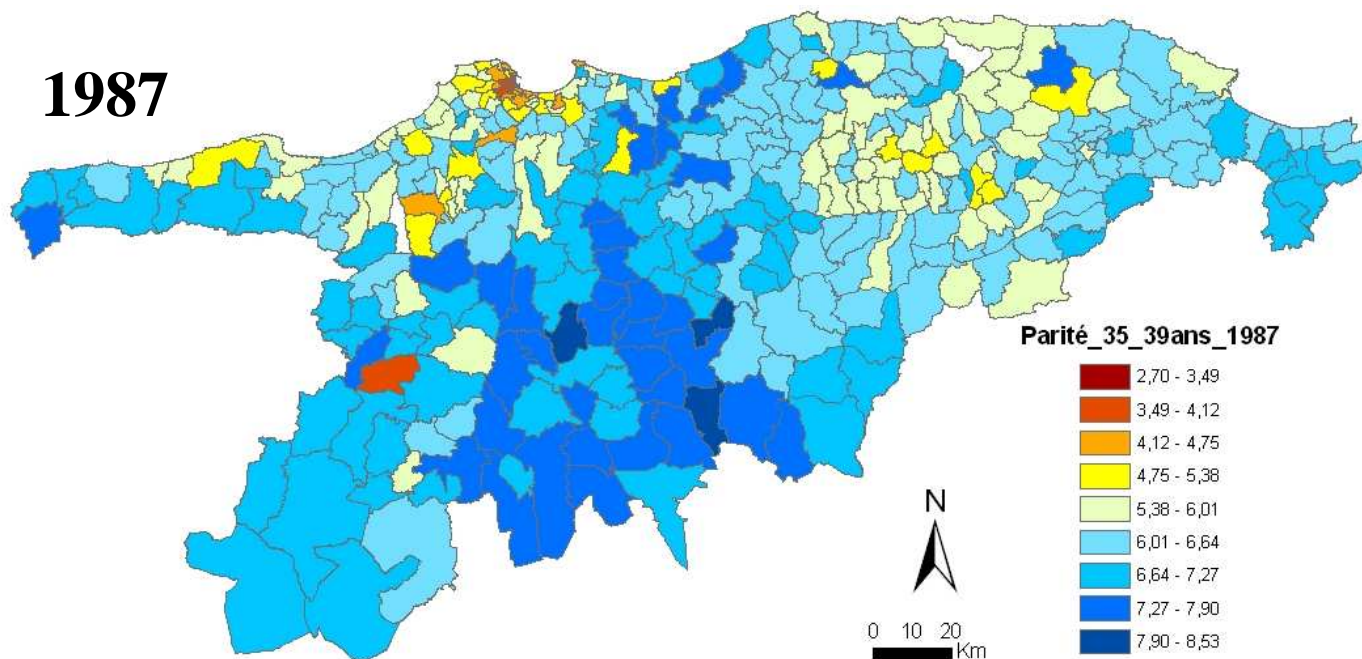
2. A precise view on the rapid fertility decline through parity at age 35-39, for a part of Algeria (8 wilayate around Algiers)

NB. This already is possible for 1987-1998, but not yet for 1998-2008

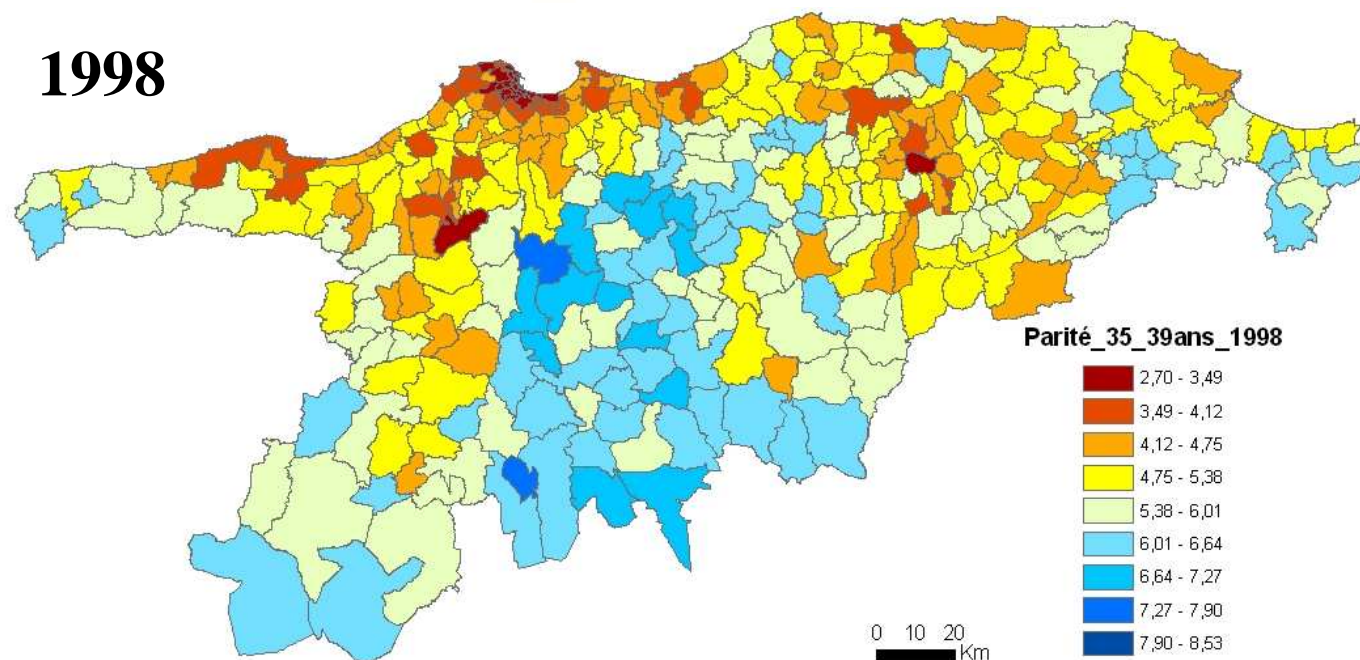


# Parity at age 35-39 by commune in 8 central wilayates

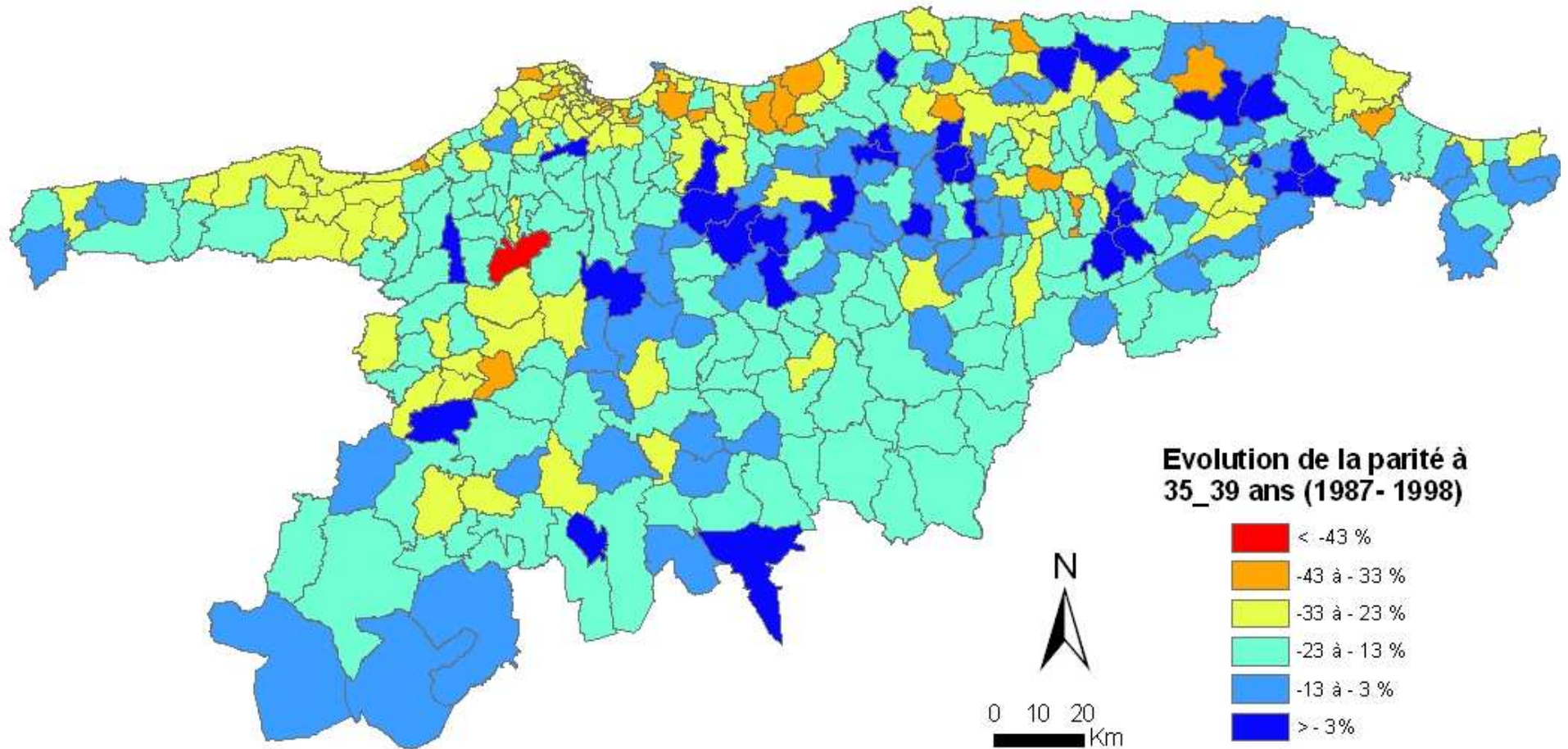
1987



1998



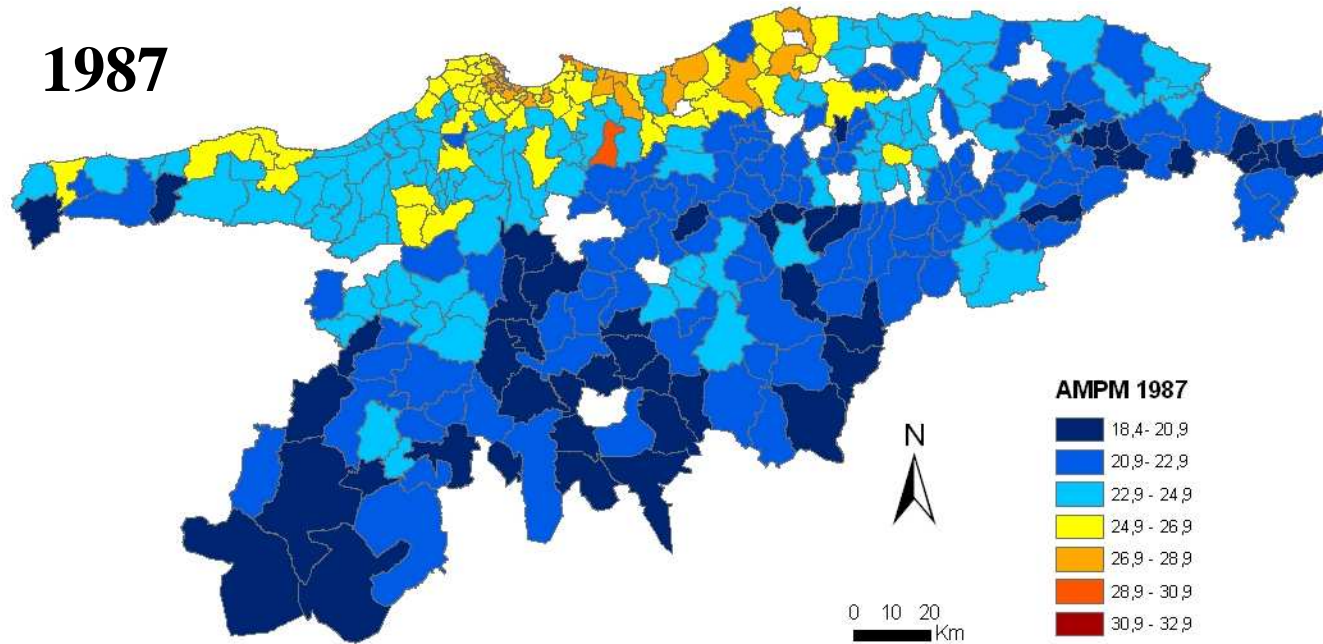
# 1987-98 trends in Parity at age 35-39 by commune (8 central wilayates)



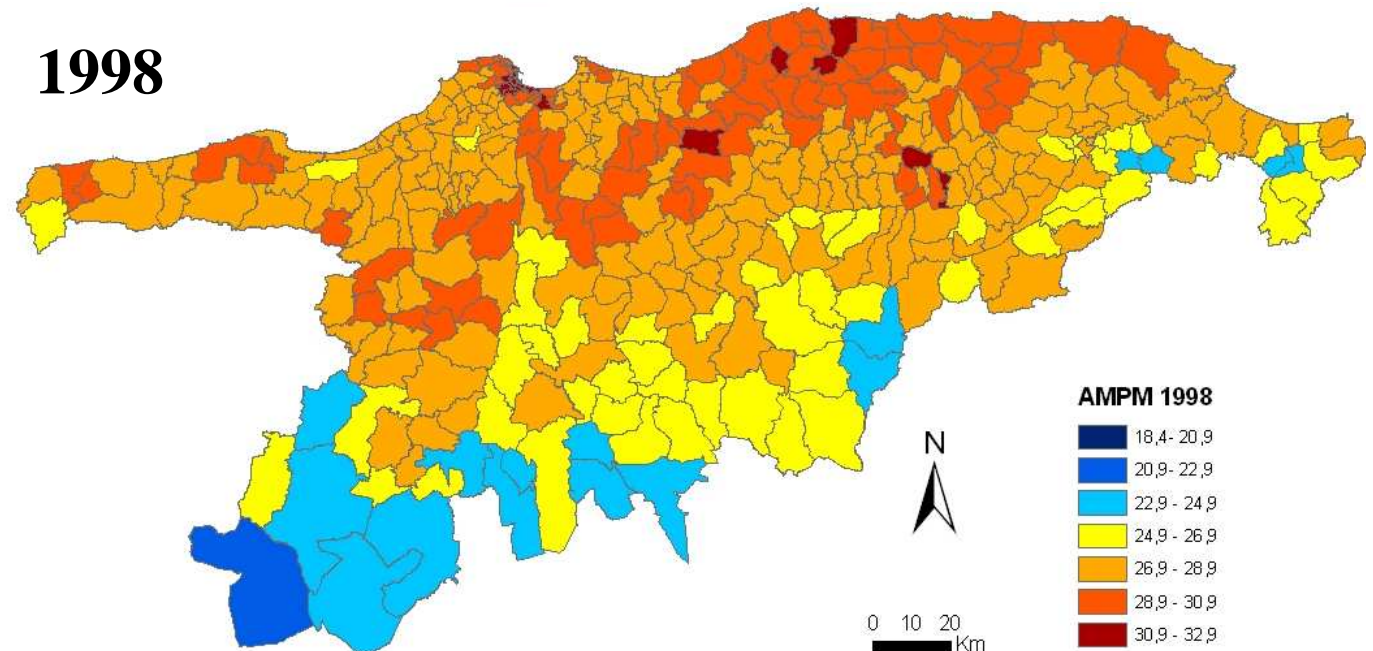


# Mean age at first marriage by commune (8 central wilayates)

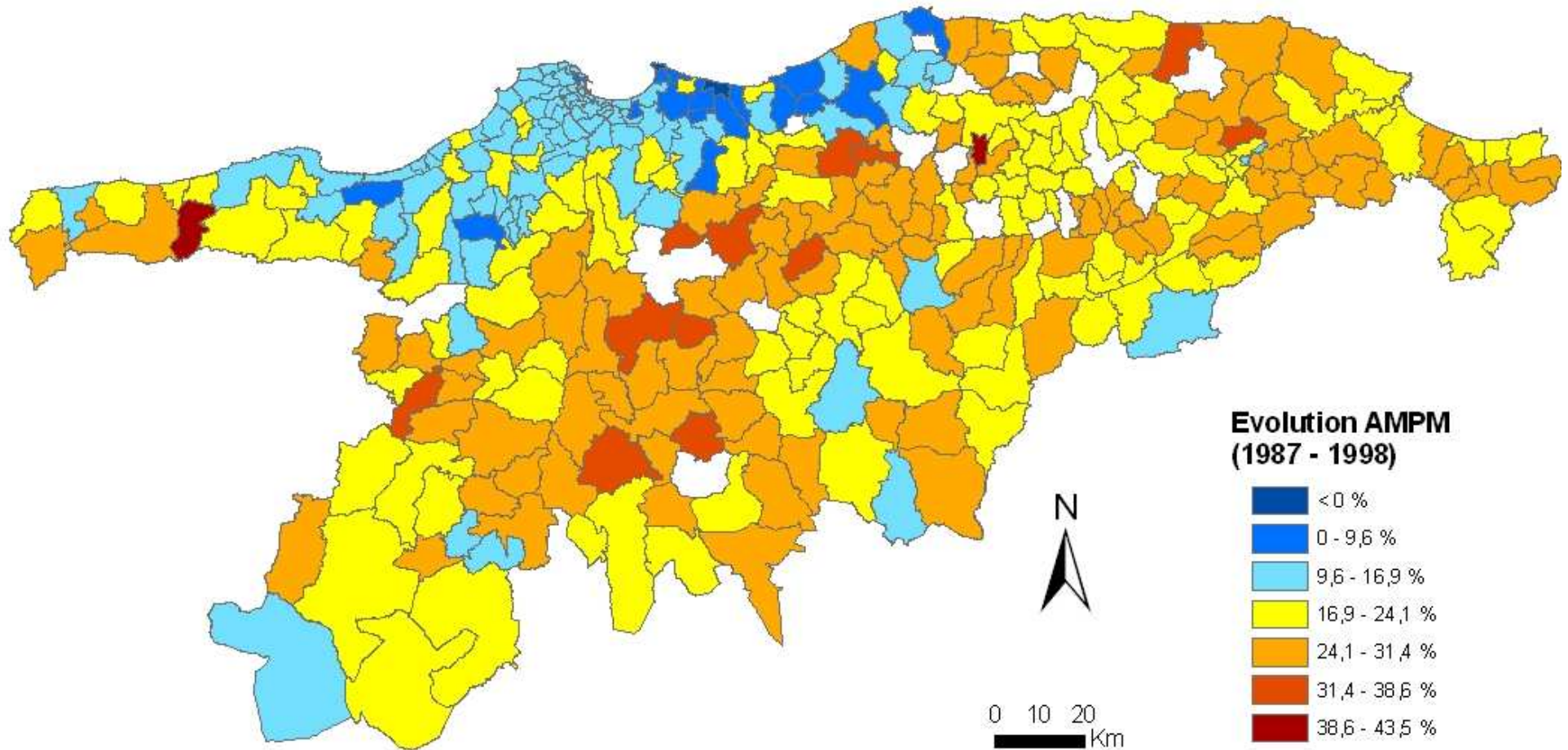
1987



1998



# 1987-1998 changes in mean age at first marriage by commune (8 central wilayates)

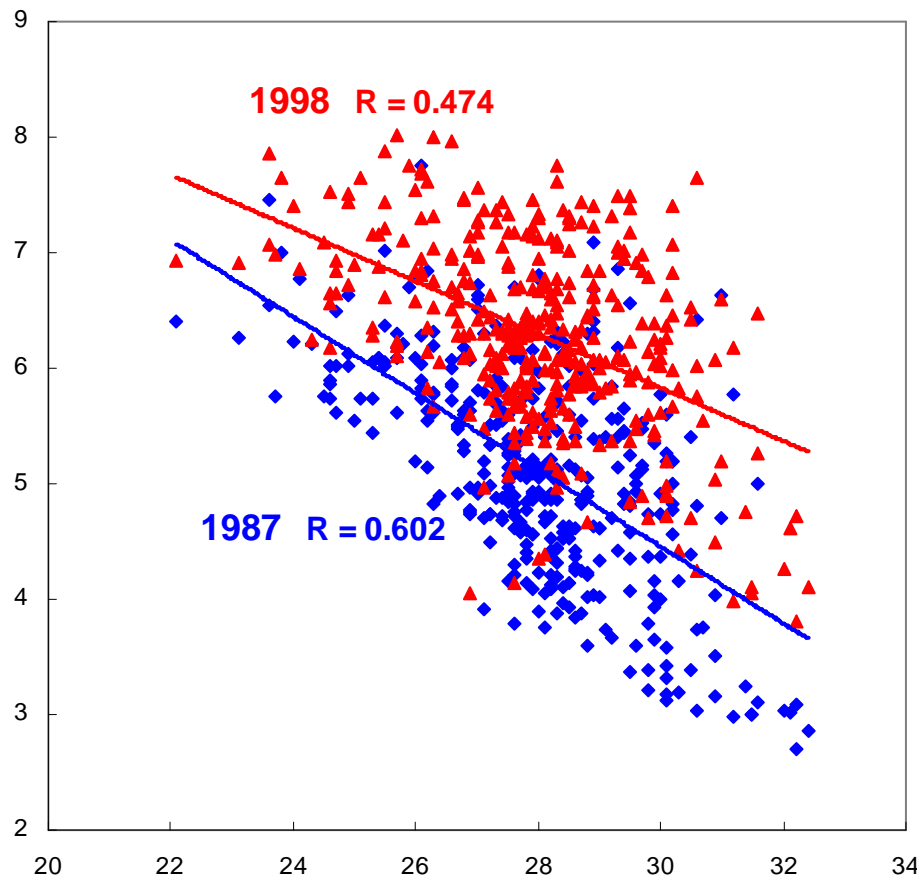




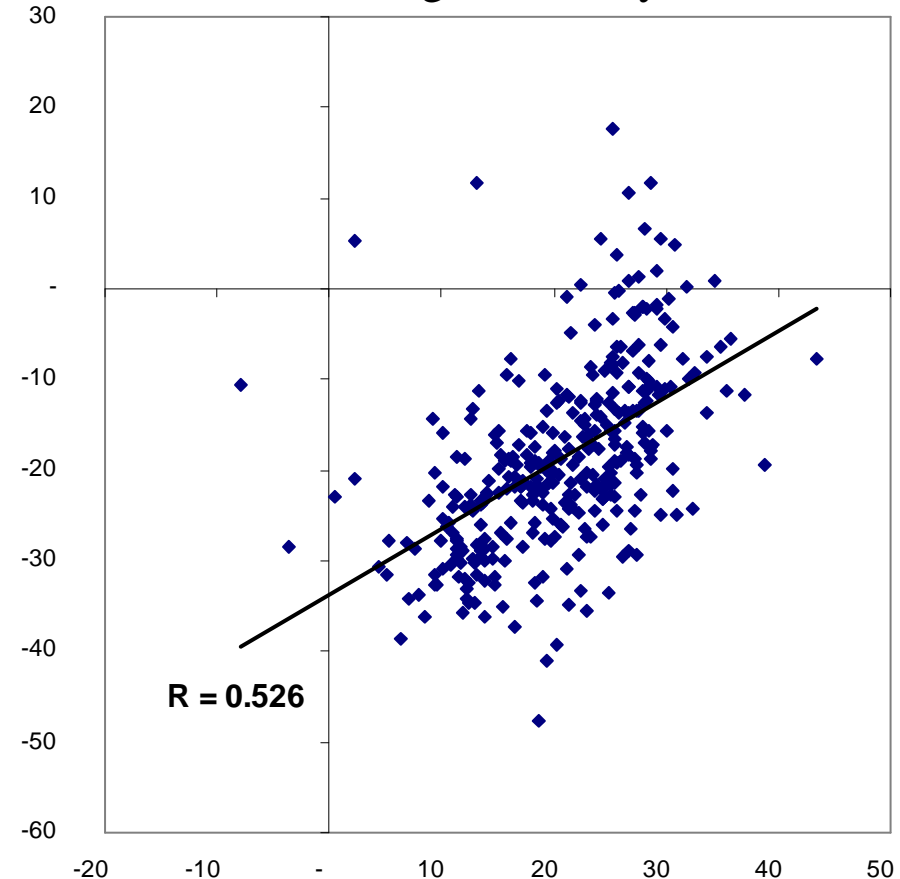
# Correlation between parity at age 35-39 and mean age at first marriage (MAFM)

*What to compare? levels or trends ?*

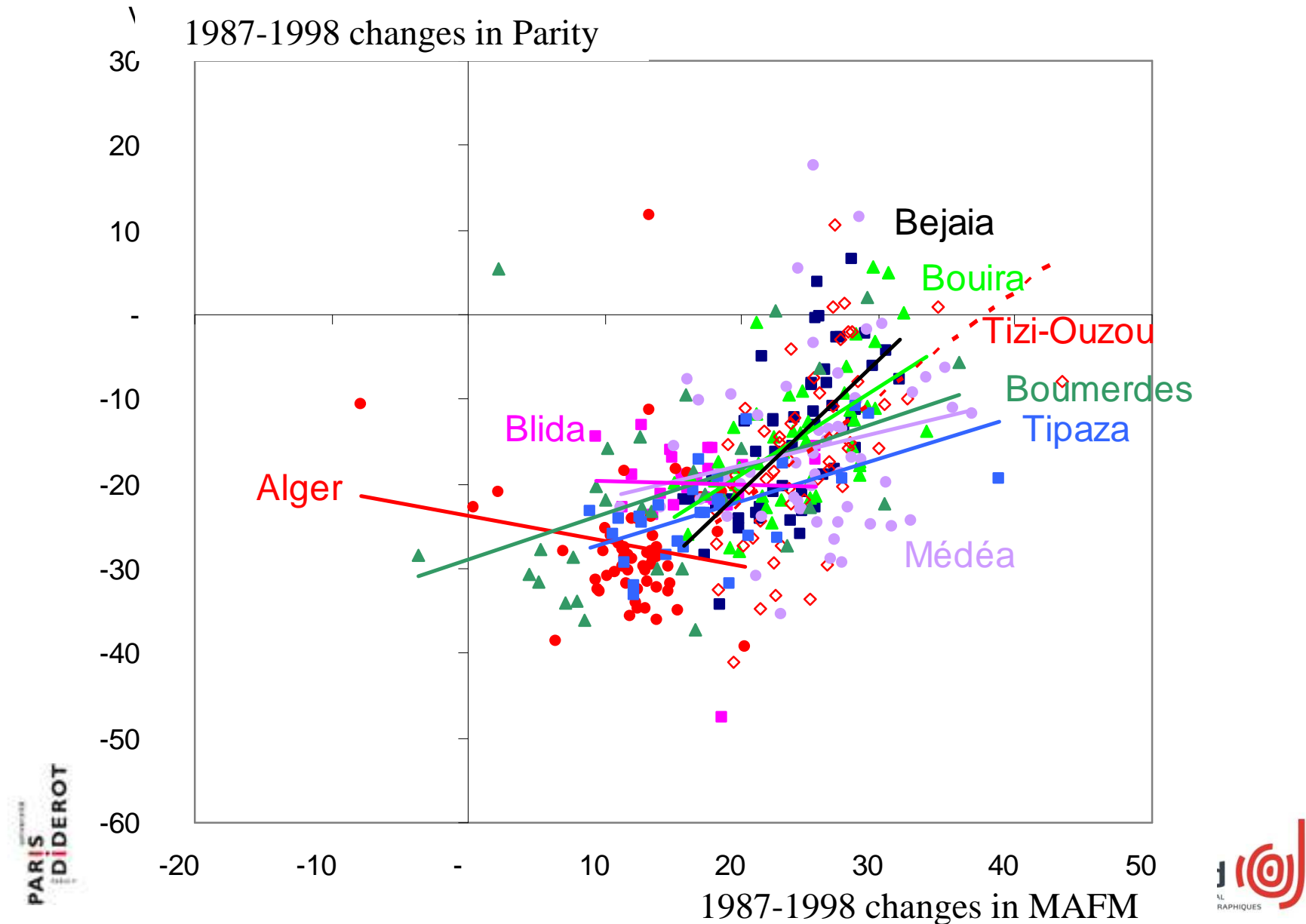
Parity levels



$\Delta$  1987-1998 changes in Parity



# Correlation between changes in parity and changes in MAFM, in wilayates



# Conclusion and discussion

- Obviously, both fertility decline and mean age at marriage rise difused very rapidly everywhere in Algeria. Even the most rural/remote localities have nowadays a very low fertility
- Link between fertility and marriage seems to be stronger through parity at age 35-39 that through TFT
- The geographical links between these two behaviour changes are more complex than expected and would require more investigation through various indicators
- A next step should also include other variables as level of education, socioeconomic status, migration rates, etc.