

# **PART 2**

## **TERRITORIAL FRAMEWORKS AND PEOPLE**

This study was initially written during the year 2000. At the time, we only had the preliminary results of the 1998 census. Since then, we have had access to the data of the 1998 and 2009 censuses (the village directory). Mali organizes a population census every 11 years and that of 2020 is not available yet.

We have updated Delmasig's original text according to the new data concerning mortality, birth rates or population by municipality.

Regarding the 2009 census, we do not have the geographical position of 27 new villages, which have not been mapped.

We have removed from the main text the paragraph dealing with the structure of the S.I.G. This technical part has been placed in the appendices. (Annex 1)

# 1 - NEW TERRITORIAL FRAMEWORKS

## 1.1- Old and new frames:

Until the law of decentralization (1996) and its implementation, with the establishment of rural municipalities (“communes”) run by municipal councils elected by universal suffrage (May-June 1999), the Republic of Mali was divided into a variety of administrative territories, with an official appointed by the Government at each level. Three subdivisions formed the politico-administrative network of the territory:

- the “Region”, administered by a Governor,
- the “Cercle”, administered by a Cercle Commander,
- the “Arrondissement”, administered by a Head of Arrondissement.

The Malian territory was divided into 7 large regions named by their capital and their rank, to which an eighth region was later added, that of Kidal.

**Table n° 1: Malian regions**

Region's name	Capital
1 <sup>st</sup> Région	Kayes
2 <sup>nd</sup> Région	Koulikoro
3 <sup>rd</sup> Région	Sikasso
4 <sup>th</sup> Région	Ségou
5 <sup>th</sup> Région	Mopti
6 <sup>th</sup> Région	Tombouctou
7 <sup>th</sup> Région	Gao
8 <sup>th</sup> Région	Kidal

Each region was then subdivided into circles and then into arrondissements, according to a very hierarchical centralizing model. The Governors of Regions, Commanders of Circles and Heads of Districts were civil servants representing the central authority, with all the excesses and sometimes the exactions that such an organization of power engenders, when it is neither controlled nor sanctioned by popular legitimacy. However, while such abuses were a sad reality, they should not be systematized. My experience of more than forty years with the Malian administration has shown that there is no shortage of competent and dedicated civil servants, working in conditions that are sometimes hard to imagine. It is actually the system that should rather be examined with a critical eye.

The 1996 reform left the Regions and Circles in place. Their Commanders now became Government Delegates. The novelty resided, on the one hand, in the creation of rural municipalities, which constituted the basis of the new territorial network of the country, with elected councils and, on the other hand, the creation of Councils of Circles and Regions, as well as that of the High Council of Local Authorities, whose members were also elected among those of the councils immediately below. Thus from then on, a local political power elected by universal suffrage was in charge of local administration and economic development, instead of a largely discredited centralized administration. This process of decentralization, which goes hand in hand with the establishment, at the time, of a democratic regime in Mali, cannot be fully understood without a historical reminder of the events which led to its establishment.

## 1.2 - A historical reminder: the difficulty of changing models...

After the conquest of part of West Africa at the end of the 19th century (1883 for French Sudan, the future Republic of Mali), the colonial power set up a centralized territorial administration whose main purpose was to control indigenous populations. The conquered territories were divided into colonies, then into circles, each under the authority of a Commander (16 in 1951 for the colony of French Sudan, supported by a hundred French officials), and also into cantons (about 800), each headed by a customary chief appointed by the administration. The cantons were more or less modeled on pre-existing political or cultural divisions and in that case, their chiefs enjoyed a certain authority,

which was tolerated by the colonial authority, provided that it was submissive. When the local power was weak or too independent, cantons were sometimes created from scratch. Because the cantons were often based on a local cultural reality, they largely contributed to fixing the ethnic dimension of the population within administrative limits, crystallizing a reality that was often more diverse and more complex. Heads of townships and villages, appointed by the administration, were essentially transmission belts for the colonial authority (for tax collection, the census of men and animals, requisition and "corvées", etc.). The customary rules that used to legitimate village leadership, based on cultural practices of participation, communication, exchanges and redistribution, found themselves perverted or annihilated.

In Mali as elsewhere, behind the façade of a liberating and often progressive discourse, the post-colonial state has slipped into the authoritarian mold of the colonial state. We can only subscribe to the uncompromising analysis delivered by the "Mission de Décentralisation" regarding the authoritarian regimes of the first two Republics (1960 – 1991):

"Without mechanisms for limiting or controlling its powers and as the quasi repository of knowledge, the postcolonial state has even strengthened its powers by no longer putting them at the service of development but gradually at the service of economic and financial drain [...] Malian authorities have slipped into the Jacobin and Western logics and perverted them in the name of particular interests, thus digging a long-term unbridgeable gap between civil society (excluded and "left behind") and the State perceived as a privileged instrument of enrichment."

Faced with a power that was at the same time omnipotent and impotent, incapable of providing the population with basic health and education services and of promoting a truly effective economic development policy, popular demands and increasingly numerous demonstrations led to the arrest of President Moussa Traoré and his government on March 26, 1991. This change, which is fundamental for the Republic of Mali, must be placed in its international context: on the one hand, public opinion in developed countries was generally favorable to the establishment of democratic powers in sub-Saharan Africa and, on the other hand, pressure from donors and development aid agencies was going in the same direction. It was hoped that the establishment of decentralized powers would guarantee greater efficiency and allow international aid to reach the populations concerned more directly.

The Transitional Government and the National Conference (July 29 to August 12, 1991) thus laid the foundations for a rule-of-law government, based on a pluralist democracy (with a constitutional text submitted to the population by referendum, Party Charter, Electoral Code, etc.) which led to the creation of the Third Republic in 1993.

The most original work of the Transitional Government, pursued by the Third Republic, seems to me, however, to be the establishment of a real policy of decentralization, whose explicit aim was to "empower the populations for their own development" (see the legal texts in appendix).

Decentralization was not an entirely new idea in Mali. In 1918, the colonial power gave Kayes and Bamako the status of first-degree mixed communes. Mopti and Ségou followed in 1953, Sikasso in 1954. The laws of 1955 and 1956 relating to municipal reorganization in Africa and Madagascar transformed them into full-fledged municipalities. In 1958, the municipalities of Kita, Kati, Koulikoro, Koutiala, Nioro, San, Timbuktu and Gao were created, bringing the total number to eighteen (with Bamako established as an urban district divided into six municipalities). But communization as a process remained limited to main cities and the new local authorities were local administrative spaces than rather than political spaces directing their own development.

The constitution of September 22, 1960 provided for seven categories of decentralized local authorities: the region, the circle, the district, the tribe, the municipality, the village and the fraction. It was never applied.

In 1977, an administrative reform was undertaken concerning the missions and competences of the regional and local administration. The arrondissements were to gradually become municipalities and a tax, the T.D.R.L. – Rural and Local Development Tax – was to finance identified local development actions. Only the tax was applied...

### 1.3 - The creation of rural municipalities (Appendix 2)

The originality of the reform therefore stems less from the novelty of some of its ideas than from the fact that it was thought out, organized and implemented in less than six years.

On February 11, 1993, Act n° 93-008 presented the framework and fundamental principles of decentralization. Four types of local authorities (without hierarchical dependence) were retained: the Regions, the District of Bamako, the Circles and the municipalities (urban and rural). The act also provided that these communities would be freely administered by elected councils and that transfers of State powers would be accompanied by transfers of resources and means.

For the elaboration and the implementation of the reform, the Government was assisted by the Mission of Decentralization (M.D.D.). It later became the M.D.I.R. (Mission for Decentralization and Institutional Reforms): between 1993 and 1994, in the eight regions of Mali (Kayes, Koulikoro, Sikasso, Ségou, Mopti, Timbuktu, Gao and Kidal), it created Regional Study and Mobilization Groups (G.R.E.M.) relayed by Local Study and Mobilization Groups in the Cercles and Arrondissements (G.L.E.M). These networks, which were independent of any administrative structure, were tasked with informing and mobilizing the population of some 12,000 Malian villages. Boundary commissions were then created for each Circle, associating representatives of the administration with representatives of civil society. Their aims were as follows:

- to inform the populations on the problem of territorial reorganization;
- to set up teams that would be responsible for organizing village consultations;
- to specify and validate the criteria for determining boundaries;
- to generate proposals for the regrouping of villages, neighborhoods and/or fractions with a view to constitute municipalities;
- to identify problems and support conciliatory processes
- to send proposals for regroupings up to the regional level

The main criteria used for defining future municipalities were as follows:

- socio-cultural elements: respect for community solidarity
- demographic elements: a sufficient population (about 10,000 inhabitants)
- distance and accessibility: the capital of the municipality must be accessible to all
- economic viability: the ability to provide administrative and social services
- geographical and spatial considerations: the municipality must have a coherent and unitary territory.

For the Sikasso region, Yaouaga Félix Koné points out – but his remarks have a more general scope – that "the boundary commissions have often favored voluntary membership as a determining criterion, undoubtedly the best pledge and the best expression of respect for community solidarity". As a result, as we will also see in the Inner Delta, criteria related to population size and even, though more rarely, to spatial coherence, have not always been respected.

At the end of a process that spanned nearly four years (1993 – 1996), the National Assembly adopted Act 96-059, which was promulgated on November 4, 1996, and created 682 new municipalities (666 rural ones and 18 urban ones). Added to the 19 existing urban municipalities, they covered the entire territory of Mali. In total the Republic of Mali was now divided into 761 local authorities (703 municipalities, 49 circles, 8 regions and the district of Bamako).

**Table n°2: The new divisions in a few figures**

Régions	New municipalities	Old districts
KAYES	126	49
KOULIKORO	106	39
SIKASSO	144	46
SEGOU	116	39
MOPTI	105	55
TOMBOUCTOU	51	31
GAO	22	16
KIDAL	10	12

The question of decentralization is still a live issue in 2020. It continues to evolve under the pressure of political events: a first change occurred in 2001, when the number of regions was fixed at 19 for a temporary period of 5 years, at the end of which Mali reverted to the previous 8 regions. On January 19, 2016, the government created the two new regions of Taoudéni (north-west) and Ménaka (north), bringing the total number to ten.

**Table n° 3: Municipalities according to population size.**

Population	Number of municipalities
between 2000 and 5000 hab.	140 (20.5 %)
between 5000 and 10 000 hab	243 (35.7 %)
between 10 000 and 15 000 hab	143 (21 %)
between 15000 and 25 000 hab	115 (16.8 %)
over 25 000 hab	41 (6 %)

**Table n°4: Municipalities according to village composition**

The municipality includes	Number of municipalities
Less than 10 villages	289 (42.4 %)
From 10 to 20 villages	210 (30.8 %)
From 21 to 50 villages	175 (25.7 %)
More than 50 villages	8 (1.1 %)

This considerable reform, which completely overhauls the organization of the Malian territory, was supplemented by the first generalized and multi-partisan local elections, which took place in May-June 1999. The New Municipal Councils were installed in the fall of 1999, with elected executives (mayors and deputies), followed in November-December 1999 by the elections of the representatives to the councils of Circles, Regions, and to the High Council of the Local Collectivities. There, too, the change is considerable: from a few hundred national elected representatives depending on a single party, Mali has moved to more than 10,000 local elected representatives depending on some forty political parties, whose logics for action are rooted in popular legitimacy and the defense of the interests of "their municipalities".

## **1.4 – The relationship between municipalities and villages: two questions**

Two problems in the process of decentralization hold our full attention. The first relates to the appropriation of land and resources, the second to the relations between the municipality and the village, or more precisely between the municipal council and its mayor on the one hand, and the tradition-based village authorities on the other. Our reasoning is based on the new texts of law published in the Republic of Mali, in particular those determining the conditions of the free administration of the territorial collectivities – (Acts n°93-008 and 96-056), the Act on the domanial code and land which was finally passed in February 2000 and finally Act No. 01-004 of February 27, 2001, entitled "Containing the pastoral charter of the Republic of Mali". Large excerpts from these laws or bills will be found in the appendix, but an analysis of their main provisions is necessary to try to understand what advantages are given to the new territories resulting from decentralization, but also the pitfalls that they will have to face.

Let us recall that the clearly expressed goal of decentralization is the promotion of local development by transferring powers and resources from the State to the newly-established municipalities. The phrase "local development" means that the latter will have to carry out actions, in particular in the fields of health and education, but also in that of economic development: very concretely, for the very large majority of them, this means development actions affecting agriculture, fishing, livestock, forestry, etc., if only to ensure tax revenues that will allow actions of a social nature, for which popular demands are very strong. We must therefore examine two series of problems: the first relates to the modes of appropriation of land and natural resources provided for by law and to the place of the municipality in this legislation, the second relates to the exercise of power over those same lands and resources.

### **1.4.1 – The land issue (appendix 2)**

The examination of the new laws reveals very positive points, but also highlights contradictions, or rather reveals an orientation that can be described as "proprietary", i.e. favorable to private property, which is likely to lead to conflicts between the various users on the one hand, and between rural municipalities and customary authorities on the other. However, we believe that one – and not the least – of the criteria by which to judge the success of decentralization will be the capacity of municipal councils to stimulate rural economic development while being able to serve as mediators between the different right-owners and users, in conflicts of interest about land and/or the use of renewable natural resources.

The new land code, which replaces that of 1986, distinguishes in particular the following categories within the Malian national domain:

- the public and private domains of the State
- the public and private domains of local authorities
- the land assets of other persons, natural and legal.

If the rivers, lakes, ponds are part of the public domain of the State, the flood zones are excluded from it.

The private domain of the State is defined by an article – Article 28 – which we wish to examine in detail. It stipulates that the following are part of the private domain of the State:

[...] unregistered lands including:

- those vacant and without owners, over which no right of use or disposal is exercised, whether by virtue of the rules of written law or those of customary land rights.
- those over which customary land use or disposition rights are exercised, whether collectively or individually;
- those over which rights of use or disposition are exercised by virtue of the rules of written law.

In Chapter II, I, devoted to customary land rights, the legislator recognizes and confirms the existence of customary individual or collective rights to the land (article 43), the holders of which cannot be deprived of them without fair compensation. The law also recognizes that these rights, after public and contradictory inquiry, may give rise to the delivery of a written title (which is different from the registration procedure).

Two other points are worth highlighting:

- individual customary rights are recorded when they "[...] have an obvious and permanent hold on the ground [...] except, where appropriate, interruptions justified by the methods of cultivation"
- customary rights "[...] other than those defined in the preceding article cannot be registered. They can only be transferred to individuals or communities likely to possess the same rights by virtue of custom and only under the conditions and limits it provides. Nevertheless, all customary land rights may be waived in favor of communities and public establishments as well as in favor of applicants for concessions."

Finally, Chapter IV - ON THE LAND-REGISTER stipulates (article 49) "that a land-register is instituted in all the communes of Mali, the purpose of which is to specify the indications relating to ownership, real rights, capacity, allocation or nature of cultivation and the valuation of built and unbuilt immovables."

These short excerpts from the new land provisions call for exegesis. The new Land Code recognizes two different regimes of land-ownership:

- private ownership of land obtained following a so-called "registration" procedure with title deed, demarcation and registration in the cadastre.
- the exercise of customary rights on land forming part of the private domain of the State. These rights may be exercised collectively or individually and may be evidenced in writing.

Finally, if cultivated land and fallow land can be registered, and therefore transformed into private property, such is not the case for rangeland, natural pastures, which can only be transferred, except that they can be subject to registration, and therefore be privatized, if customary rights are abandoned. This means that in the Inner Niger Delta, herders with customary rights over "bourgoutières" can only pass these rights on to their legitimate heirs. On the other hand, if they abandon their rights (under what conditions?), these "bourgoutières" can be registered and become the private property of a local authority or an individual.

Land-law in Mali has undergone a long evolution since the beginning of the colonial era, of which the best expert is undoubtedly Alain Rochegude, who specifies the following points in a private exchange:

During the early part of the colonial era, land that was not registered – "appropriated" in the modern sense of the term – was deemed vacant and without owners. Customary lands were classified in this category. From 1935 onwards, this concept evolved: for land to be classified as vacant and without an owner, the administration had to provide proof that it was not exploited. From 1955 onwards, the very notion of vacant land without an owner was no longer applicable when customary rights were exercised and implementing texts were adopted in the French Sudan in 1957-58. After independence, Modibo Keita, Mali's first head of state, spoke in favor of nationalizing land, without any real practical application. However, the recognition of customary rights disappeared from land laws and the notion of "vacant and ownerless land" was replaced by that of "national domain".

The 1986 text reintroduced the recognition of customary rights, but without real application. The new law is much more precise and recognizes the validity of written evidence, including that of forms of contract: this can only be found positive in a region where forms of "imperfect commodification" of land have rapidly developed in the last few years.

However, two other points from the text seem fundamental to us:

- Although the State recognizes that rural municipalities have prerogatives and duties in terms of economic development – which is necessarily based on the land or the natural resources it bears – it does not necessarily transfer responsibilities in terms of land matters. Land governed by customary use remains in the private domain of the State. Only time will tell if this is a lack of audacity on the part of the legislator, or simple prudence.
- While customary rights are properly recognized, the text is nevertheless very clearly oriented towards the passage of land into private property. In particular, except in the draft pastoral charter to which we will return, nowhere are solutions envisaged other than, on the one hand, customary rights – in constant evolution under the pressure of economic issues – exercised on the estate; private property of the state, or, on the other hand, private property. The exercise of rights of different natures, granted to different people or communities and according to specific timetables, exerted on renewable natural resources organizing the rights of each according to hierarchical land control is never envisaged. This different way of thinking about the relationship between man and his environment, reconciling

customary law and so-called "positive" law, is nevertheless at the center of the work of APREFA, (Association pour la Promotion des Etudes Foncières en Afrique) which has published several works on the question, and is the subject of the thesis by Olivier and Catherine Barrière devoted to land-environment in the Inner Niger Delta.

#### 1.4.2 –Dual powers: shared responsibility or rivalry?

Decentralizing legislation establishes elected municipal powers but does not, however, abolish village chiefdoms. It even reaffirms their importance from the outset, since Title 1: OF THE MUNICIPALITY specifies that *if "the urban or rural municipality is a decentralized community with legal personality and financial autonomy"* (article 1), a rural municipality *"consists essentially of villages and/or fractions"* (article 2); and that the establishment of a municipality, within an adequate geographical framework, first expresses *"a desire to live together, the existence of bonds of solidarity and economic viability"* (article 3).

Indeed, in its principle, the rural municipality appears as a common living space, a place where solidarities, but also economic projects, must manifest themselves: in regions where people essentially live on resources drawn from the environment (agriculture, livestock, fishing, etc.), this will involve some decision-making regarding the management of this environment.

In particular, the law specifies that, by its deliberations, the municipal council regulates *"the affairs of the municipality, in particular those relating to economic development programs"* and that it must in particular be responsible for *"the organization of rural activities and agro-sylvo production - pastoral"* (article 14). It reaffirms that the village remains the basic community in sedentary environments, that the village chief is appointed by the village council and that his title and the prerogatives of powers attached to it are endorsed by the State, as represented by the Government Delegate (Circle Commander).

It therefore appears that within a given municipal space, two types of powers will have to coexist and learn to collaborate on sometimes very sensitive subjects: deciding on the management of pastures (which breeders can use them, how long for, with what number of animals?), the creation of hydraulic equipment (on what land, for whose benefit?), the exploitation of a forest, etc.

The law also specifies in great detail (article 74) that, while the municipal council decides, it must consult the advisers of the village chief concerned on:

- the organization of agricultural and pastoral activities, and of forestry, fishing and hunting;
- the installation and management of collective facilities
- the development and implementation of development plans and land-use plans
- the protection of the environment and the management of natural resources
- State and land disputes
- the part of the development program concerning their village, fraction and district.

What we want to bring out, through this examination of the various articles of the law, is that the success of a municipality, and the legitimacy that can only be conferred on it by its being rooted in society's collective consciousness, require the close collaboration of two different powers. Admittedly, one – the mayor – decides, but the other – the village chief – must acquiesce and it is difficult to see a mayor deciding on a hydraulic investment on the territory of a village without the agreement of the village community, and without that of the village chief and his advisers.

This obligatory collaboration risks being made difficult by the fact that these powers are not of the same kind. The mayor and the municipal council are elected by universal suffrage. The new mayors are quite often relatively young and literate men (teachers, nurses, etc.). Their very recent legitimacy is based on popular suffrage. That of village chiefs and their advisers is of a different nature. Bréhima Bérédogo reminds us that in most ethnic groups in Mali, power in the village, both political and religious, is exercised by the elders and that seniority, admittedly conferred by biological age, is above all a "social age, based on status, within the framework of kinship". About the Inner Niger Delta, he adds:

*"As regards the administration of the village and the management of natural resources, they are carried out in a collegial manner by the assembly of lineages through their chiefs. It even*

*happens that particular responsibilities are entrusted to certain lineages as in the Central Delta of Niger where we find the village chief, the land chief, the master of water, of pastures [...]"*

Making the new rural municipalities the basic units for democratic feeling to take root – to put it more simply, through the shared feeling of a form of social justice, and economic development, without which this feeling of social justice cannot flourish – presupposes that the two forms of power which cohabit in the municipality are capable of collaborating. Such collaboration will not always be easy to achieve, between one power, that of the municipality, democratically elected but party-bound, and another power, that of the village, based on an unequal system, but operating on a consensual mode.

This duality of powers and, at the same time, this obligatory collaboration, can only make us regret the fact that the land-laws, even if they represent progress compared to previous situations, remain based on the opposition between private property and customary rights on the private domain of the State, a model described by Etienne Le Roy as "[...] an in-between [...] that can lead to a certain confusion or even real schizophrenia" and that they do not open up perspectives for the management of natural resources based on a heritage approach which, it seems to me, would be closer to the very conception that the different users have of their space.

## 2 – THE REGIONAL HUMAN DIMENSION

### 2.1 – The national context: a strong vitality

**Table n°5: The evolution of the Malian population since 1921**

1921	1931	1946	1951	1956	1976	1987	1998	2009
2 475 000	2 856 000	3 797 000	3 347 000	3 708 000	6 394 918	7 696 348	9 780 492	14 528 662

In 1976, the year of the first general population census, Mali had 6,349,917 inhabitants. Thirty-five years later, in 2009, the number had been multiplied by 2.3, with the resident population reaching 14,528,662 in 2009 and 20,933,072 in 2020.

**Table n°6: Annual growth rate of the Malian population since 1921 (in %)**

1921 - 31	1931 - 46	1946 - 51	1951 - 56	1956 - 76	1976 - 87	1987- 98	1998-09
1,92	2,89	?	?	2,76	1,70	2,21	3,7

Sources: Population censuses for 1976,1987,1998 and 2009

The growth-rate of a population depends on three variables: the gross birth and death rates as well as the emigration/immigration balance. The growth-rate of the Malian population rose from 1.7% per year between 1976 and 1987 to 2.2% between 1987 and 1998. With 3.7% for the period 1998 to 2009, it became one among the highest in the world.

Rates prior to 1976 must be considered with caution, as the data come from counts made for tax purposes. For example, the particularly high rate for the period 1931-1946 is observed in all the countries of the Sahel (including for the censuses...of cattle for which the owners pay a per capita tax). For that period, it is therefore difficult to make the distinction between the demographic vitality of the populations and a firmer grip of the control of the population by the colonial administration after the difficult period of the Second World War. We did not calculate the rate for the period 1951-56, because the definition of the territory changed in 1947. The areas of Toucan, Nouna, etc... were detached from the French Sudan (the future Mali) during the reconstitution of the territory of Haute-Volta (now Burkina Faso).

After 1956 (the date of the first demographic surveys), the data become a little more reliable. The still moderate rate for the period 1976-87, which then accelerated (2.21% in 1987/98, then 3.7% in 1998-2009), comes from a sharp decline in general mortality, which fell from 27.8 ‰ in 1976, to 12.9 ‰ in 2009. These very high rates were, however, moderated by international migratory

currents, linked to the vagaries of the climate which affected the countries of the Sahel from the beginning of the 1970s, but also by the absence /presence of obstacles of varying strength that stood in the way of would-be emigrants to Europe, France in particular, and more generally to developed countries providing employment (or reputed as such!)

Currently, Mali is one of a dozen African countries – and the poorest one – still displaying a "traditional demographic model", with a very high birth-rate (around 45 to 50‰). The gross birth-rate of the population increased from 43.2‰ in 1976 to 49.7‰ in 1987, before it started to decrease slowly: 48.5‰ in 1998 and 43.9‰ in 2009. The global fertility index of 6.8 children per woman also decreased slightly (6.4 in 2009). Life-expectancy at birth remains affected by high infant-mortality. It was low in 1976 (36.6 years), it remained mediocre in 1987 (44 years) and progressed slowly in 1998 (47 years), to reach 54.7 years in 2009 and 59 years in 2018.

General mortality shows a very clear decline, dropping from approximately 37‰ around 1960 to 21.5‰ in 1987, 12.9‰ in 2009 and 9.7‰ in 2018. This decline must be attributed, in part, to the extreme youth of the population, resulting from a high birth-rate, but also a marked decline in child-mortality.

**Table 7: The evolution of general mortality between 1960 and 2018**

Years	1960	1970	1976	1987	1998	2009	2018
General mortality rate (‰)	36,8	31,9	27,8	21,5	19,2	12,9	9,7

General mortality, like life-expectancy at birth, remains strongly marked by infant and infant-juvenile mortality. Both were very heavy in the 1980s, they evolved slowly at the turn of the millennium and have fallen more sharply over the last ten years, influencing the increase in life-expectancy at birth and the rate of population-growth.

**Table n° 8: The evolution of infant-mortality from 1987 to 2018**

	1987	1995	2001	2006	2012-	2018
		-96			13	
Infant mortality (‰)	247	238	229	191	95	101
Infant-juvenile mortality (‰)	105	122	113	96	56	54

Sources: Demographic and Health Survey - EDSM 2001, 2006, 2012-2013, 2018

## **2.2 - The 5th Region: from being a unique region in the 20th century to becoming an average region in 2018:**

### **2.2.1 - Unique demographic characteristics:**

National demography hides deep disparities in reality, not only between towns and countryside, but also between regions.

At the national level, the differences between urban and rural areas, which were not yet very marked in 1976, increased from 1987 onwards. The number of children per woman became lower in urban areas (5.4 children) than in rural areas (7.3 children). In 2009, this difference is still very marked, with an I.S.F. of 5.0 children per woman in urban areas compared to 6.7 in rural areas.

If we compare the evolution of the different regions of Mali, we see that the region of Mopti (5th region) has long been marked by very strong demographic particularities linked to the Niger's Inner Delta. These differences, which were very marked in the 1970s, seem to have diminished recently.

**Table n° 9: The evolution of the population's growth-rate by region according to the intercensal periods (in %)**

Régions	Intercensal period											
	1976-1987			1987-1998			1998-2009 (définition 1)			1998-2009 (définition 2)		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Kayes	1,8	1,6	3,3	2,3	1,7	5,5	3,4	2,6	6,4	3,4	2,9	7,8
Koulikoro	2,3	1,9	6,1	2,5	2,0	5,5	4,0	2,2	10,3	4,0	4,0	4,5
Sikasso	1,6	1,1	5,0	2,8	2,1	6,4	3,6	2,5	6,9	3,6	3,4	5,0
Ségou	2,0	1,7	3,5	2,1	2,0	2,4	3,1	2,6	4,9	3,1	3,1	2,6
<b>Mopti</b>	<b>1,2</b>	<b>0,9</b>	<b>2,8</b>	<b>1,3</b>	<b>1,2</b>	<b>1,7</b>	<b>3,0</b>	<b>2,5</b>	<b>5,5</b>	<b>3,0</b>	<b>2,5</b>	<b>8,6</b>
Tombouctou	-0,6	-1,4	4,8	0,3	0,2	1,0	3,2	3,1	3,8	3,2	2,5	10,3
Gao	0,2	-0,7	5,2	0,3	-1,4	5,1	2,9	2,7	3,4	2,9	2,1	7,3
Kidal										4,4	2,7	8,0
Bamako	4,2		4,2	4,0		4,0	5,4		5,4	5,4		5,4
<b>ensemble</b>	<b>1,7</b>	<b>1,1</b>	<b>4,2</b>	<b>2,2</b>	<b>1,6</b>	<b>4,2</b>	<b>3,6</b>	<b>2,5</b>	<b>6,1</b>	<b>3,6</b>	<b>3,1</b>	<b>5,6</b>

*Def 1: Urban areas made up of urban municipalities, local authorities and localities with at least 5,000 inhabitants.*

*Def 2: Urban areas made up of urban municipalities of local authorities*

If we classify the Saharan regions (Gao, Timbuktu and Kidal) separately, the table highlights the particular situation of the Mopti region, which has a growth rate, both rural and urban, below the national average and is ranked 5th among Malian regions between 1976 and 1998. In the latest intercensal period available (1998-2009), the region is still ranked 5th, but seems to be getting closer to the national whole by presenting growth-rates close to those of the other four Sudanian or Sudano-Sahelian regions (Kayes, Koulikoro, Sikasso, Ségou).

The situation that prevailed until 1998 is explained by a lower birth-rate, and higher mortality than in the Sudanian (Sikasso, Ségou, Koulikoro) and Sudano-Sahelian (Kayes) regions, but also by a negative net migration. In 1976, the region's gross birth-rate (42.5‰) was lower than the national average (43.2‰), which placed it in penultimate position among the Malian regions. In 1998-2001, the health study (EDSM III Mali 2001) attributed to the Mopti region an I.S.F. (Synthetic fertility index) of 6.8 children per woman: this is certainly a very high value, but lower than in the other Malian regions (Sikasso: 7.6; Ségou: 7.3, Koulikoro: 7.2), except for the 3 Saharan regions (Timbuktu, Gao and Kidal).

In 2009, the birth-rate was 37.4‰, just ahead of Timbuktu, but it is lower than that of the 4 major Sudanese and Sudano-Sahelian regions, which are less pro-natalist than the other major Malian regions. The 5th region also has a higher general mortality than the national average, under the influence of very high infant-mortality

**Table 10: Total fertility-rate and birth-rate by region in 2009**

Ranking	Regions	Total fertility rate (children/women)	Gross rate of Birth (‰)
1	Sikasso	6.5	44
2	Kayes	6.3	41.7

3	Koulikoro	6.3	41.7
4	Ségou	6.3	41.5
<b>5</b>	<b>Mopti</b>	<b>5.8</b>	<b>37.4</b>
6	Bamako	5.1	43
7	Tombouctou	4.5	36.4
8	Gao	4.6	32
9	Kidal	3.6	26.9
	MALI	6.4	43.9

### 2.2.2. A very heavy infant-mortality, in decline for 20 years

The general excess mortality of the Mopti region can be seen particularly in the infant and infant-child mortality rates which, until recently, were probably among the highest in the world over such a vast area.

**Table n° 11: Infant, child and infant-juvenile mortality by region in 1976 and during the period 1986-1996**

Régions	T.M.I		T.M.J		T.M.I.J	
	1976	1986-96	1976	1986-96	1976	1986-96
KAYES	91,6	134,9	130,5	143,5	210,1	259,0
KOULIKORO	141,1	131,8	127,4	115,4	250,5	232,0
SIKASSO	126,2	138,7	96,3	108,7	210,3	232,3
SEGOU	154,8	147,9	168	148,0	296,8	274,0
<b>MOPTI</b>	<b>180,9</b>	<b>142,4</b>	<b>248,2</b>	<b>213,2</b>	<b>384,2</b>	<b>325,2</b>
TOMBOUCTOU	138,4	106,2	214,7	146,6	323,4	237,2
GAO	94,3	<sup>1</sup>	93,6		179,1	
BAMAKO District	65,2	83,9	78,6	71,2	138,7	149,1
Urbain	82,8	?	106,6	?	180,6	?
Rural	142,5	?	160,4	?	280,0	?
ensemble	132,3	133,5	151,8	137,0	264,0	252,2

*T.M.I* : Infant mortality rate

*T.M.J.* : Child mortality rate

*T.M.I.J.* : Infant and child mortality rate. It is calculated from the two preceding ones and does not result from a simple addition of the two rates, the juvenile mortality relating to the survivors of the initial cohort.

The question is whether there are differences between the Inner Delta proper and the "non-Delta" territories of the region. The Inner Delta covers only part – less than a quarter – of the 5th Region, which also includes the Bandiagara plateau, the Séno Mango and the south-west of the Gourma (Douentza circle).

The works published under the direction of Allan G. Hill, Yolande Jémai and Adam Thiam in 1985 leave no doubt about the very heavy weight of the Inner Delta, concerning regional mortality. According to the authors, the differences are essentially due to the space considered: the Delta is a marsh environment, while the Séno-Mango is a Sahelian one.

<sup>1</sup> Calculated with Timbuktu included

**Table n° 12: Infant and child mortality compared for different Fulani groups in the Inner Delta and Séno-Mango (1980-1982)**

	T.M.I (‰)	T.M.J (‰)	T.M.I.J (‰)
Delta Rimaibe <sup>2</sup>	227	380	521
Delta Fulbe	217	322	469
Séno-Mango Rimaibe	151	265	376
Séno-Mango Fulbe	152	180	305

At the beginning of the 1980s, a child born in the Inner Delta had a probability of 1 in 4 of dying before his first birthday, and 1 in 2 before the age of 5! This made it one of the heaviest infant and child mortality rates in the world for such a vast population.

This dramatic situation had probably been the norm of the Inner Delta since very ancient times. During his surveys in 1955/1957, Jean Gallais (p.167-168) indicated an infant-mortality rate (0-1 year) of 293‰ in rural areas, higher than the rates recorded by Hill, Jemai and Thiam in 1980- 82 and described the health situation in the Delta as follows:

*"The climatic conditions of the delta are deadly. The cold is made more severe by the atmospheric humidity from October to January. The affections of the respiratory system, bronchitis, bronchopneumonia, pneumonia, strike the populations during the rainy season and winter. Malaria is widespread..... Measles causes frequent meningeal complications and represents one of the most serious causes of infant mortality."*

The situation changed slowly at the turn of the 1990s, in particular with the still limited development of childhood vaccination. The 1998 census gives us deaths according to age, which makes it possible to calculate infant and infant-juvenile mortality.

**Table n°13: Child mortality in 1998**

Age at death	5th Region outside the Inner Delta For 36,517 births		Municipalities of the Inner Delta* For 27,818 births	
	Girls	Boys	Girls	Boys
[0- 1 month[	501	310	452	313
[1 month - 1 year[	605	542	852	741
[1 year - 2 years[	514	454	915	791
[2 years - 5 years[	809	693	1880	1587

\* remember that the Inner Delta extends its territory over regions 4 (Ségou), 5 (Mopti) and 6 (Timbuktu).

This first table illustrates the heavy difference between boys and girls regarding death, whether one is born in a municipality of the Inner Delta or in the rest of the 5th region. Between 0 and 5 years, across the region as a whole, the mortality of little girls represents 116% of that of boys, with a particularly heavy percentage (153%) between 0 and 1 month.

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<sup>2</sup> The Rimaibe are the former captives of the Peul or Fulbe. In the Delta, the former are traditionally farmers and the latter herders, although this professional specialization has lost much of its relevance.

**Table n° 14: Child mortality rates in 1998**

<b>5th Region outside the Inner Delta</b>		<b>Municipalities of the Inner Delta*</b>	
<b>T.M.I (‰)</b>	<b>T.M.I.J. (‰)</b>	<b>T.M.I (‰)</b>	<b>T.M.I.J. (‰)</b>
<b>53.6</b>	<b>121.3</b>	<b>84.8</b>	<b>270.7</b>

We note that infant and infant-juvenile mortality fell in 1998 compared to the 1980-82 period of the previous survey, but has remained very heavy since, in the inner Delta in 1998, nearly one child in three died before his 5th birthday. The Delta still stands out by this very high child-mortality, with infant and child mortality more than twice as high as in the rest of the 5th region.

The causes of this excess mortality are no doubt due to the wealth of pathologies linked to the malarial environment (with significant diseases linked to water, the infection of wounds, or the cold of the Sahelian nights, which aggravates respiratory or infantile diseases), as well as to regional under-equipment in terms of healthcare, and the specific difficulties encountered by inhabitants in accessing it in case of need. The region is not strictly speaking a landlocked region or one that is difficult to access. Mopti is connected to the capital by a paved road and has an airfield with a hard runway that can accommodate medium-carrier aircraft. On this point, therefore, the Mopti region cannot be compared to that of Kayes, for example. On the other hand, the difficulties of intra-regional circulation, and more especially that internal to the Delta, weigh heavily. In fact, traffic in the Delta can take place by canoe – a dramatically slow process when it comes to transporting a sick child – for part of the year (from 3 to 6 months a year, depending on the location, except for villages directly on the river). It can also be done by car for three to four months – from March to June – a period during which the Delta is "out of water", but this is sometimes very complicated if you have to cross fords. For areas not located on the Niger, the Bani, or the main tributaries, all traffic is impossible for several months a year, cars get stuck and canoes no longer pass, for lack of water.

Since 1998, the situation has somewhat improved. In 2009, infant (118.0‰) and infant-juvenile (155.4‰) mortality rates in the 5th region were close to the rates observed in Mali as a whole (T.M.I. 104‰, T.M.I.J. 154.0‰). This relative "normalization" of the inner Delta is undoubtedly due to a series of factors: the installation of modern watering-places (with cemented wells, boreholes, etc.) in the majority of the villages of the Delta, which greatly improve the healthiness of the water, and better availability of basic drugs with the development of health centers in the municipalities. The evolution of the situation in the intercensal period 1998 - 2009 is significant: in 1998, 506 towns and villages had at least one modern watering-place out of the 914 localities of the Inner Delta. In 2009, 782 out of 914 villages were equipped. Health facilities (a dispensary, health centre, PMI (mother and child care) etc. also developed between 1998 and 2009, but the situation is still far from satisfactory. In 1998, 58 localities had a healthcare centre, which roughly corresponds to one healthcare facility per municipality. In 2009, 145 localities had a care centre. The progression is significant; however, the localities able to provide these services to their inhabitants represent only 16% of the towns and villages of the municipalities of the Inner Delta.

In addition, the examination of the maps clearly shows that the development of care centers is carried out in priority on the southern and eastern margin of the Delta: the north and west remain heavily deprived territories.

**{See map n° 1: "Access to a modern watering-place 1998 - 2009) and the shapes (equipment\_1998 and equipment 2009)}**

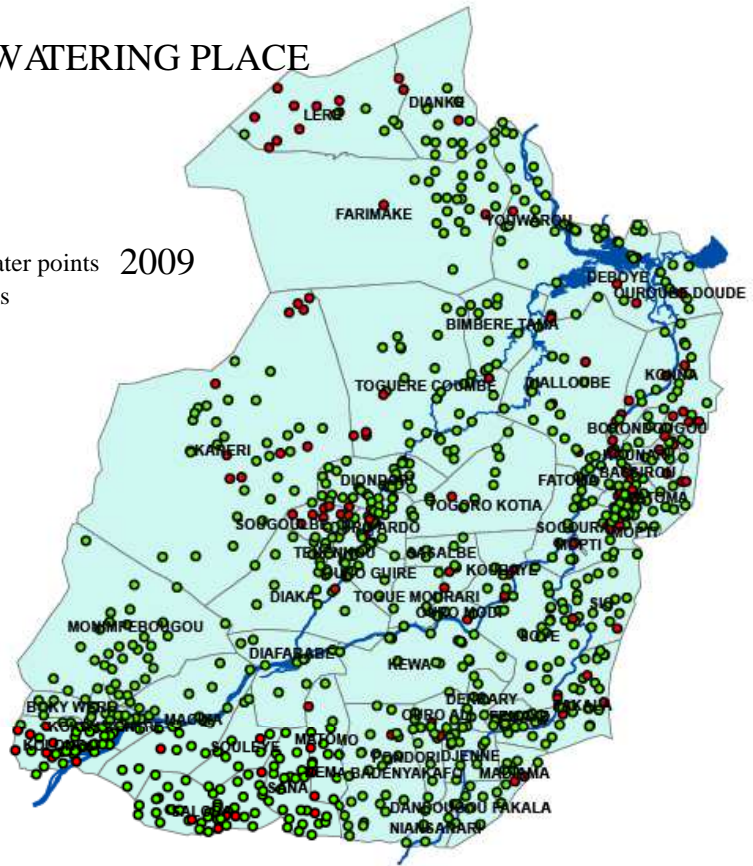
**{Map n° 2: healthcare provision in the municipalities of the Inner Delta 1998-2009}.**

Map n° 1

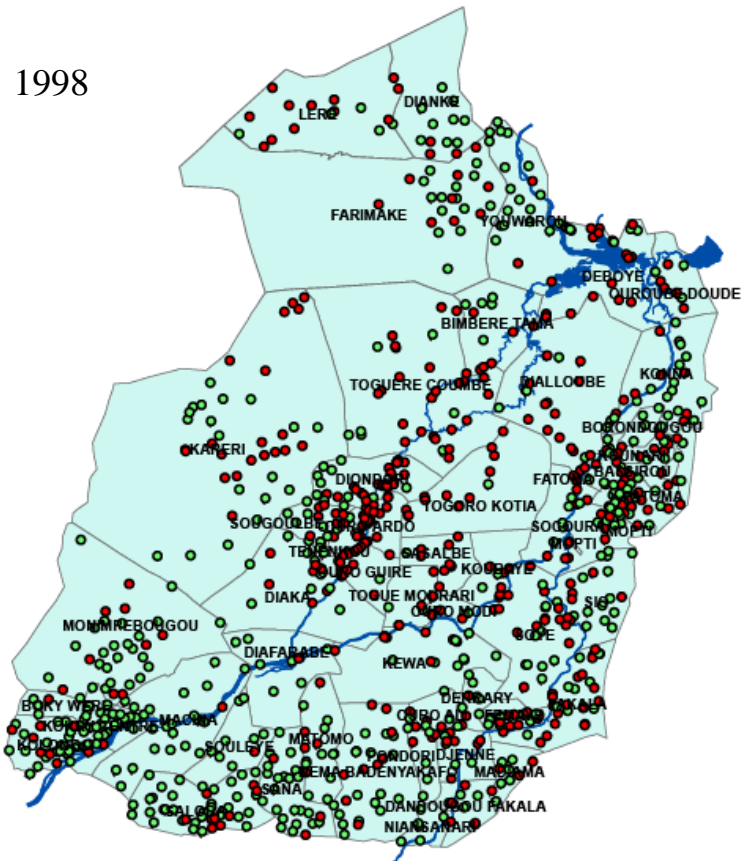
## ACCESS TO A MODERN WATERING PLACE

Cemented well, borehole, standpipe

- Towns and Villages with modern water points 2009
- Towns and Villages without facilities

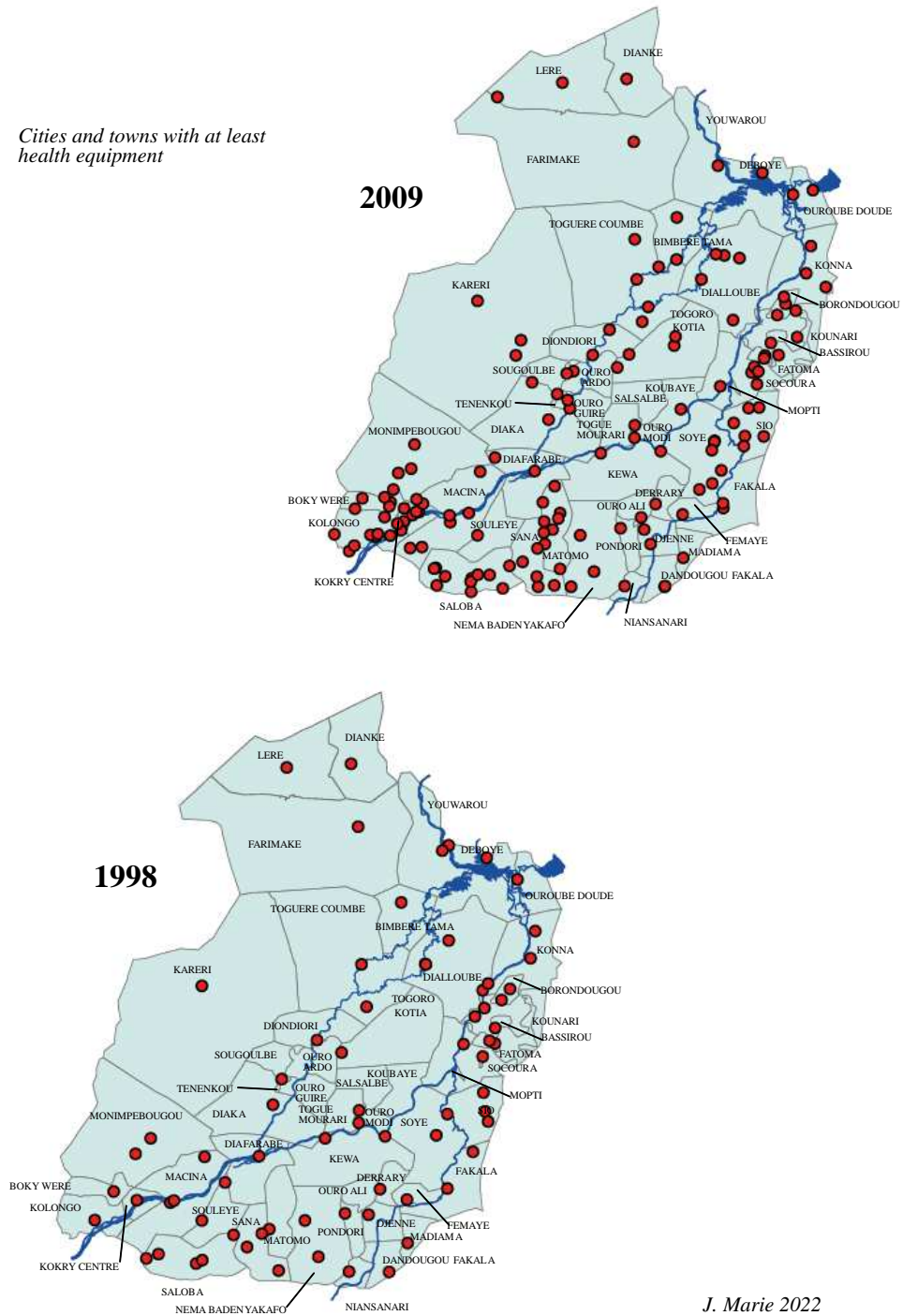


1998



## CARE OFFER IN THE COMMUNES OF THE INNER DELTA

● Cities and towns with at least health equipment



## 2.3 - A region of emigration?

Understanding the singularities of the evolution of the regional population, and those more particular to the inner Delta, compared to the Malian national whole, leads us to compare the natural increase of the population, which results from the differential between births and deaths, with the growth of the population, which indicates how territories capitalize on their demographic vitality.

Mali is a country of emigration. In 1987, the net international migration rate for the whole territory was -1.89% per year – i.e. an annual net deficit of 145,561 people. This figure should be compared to that of natural increase (+ 3.7% per year); hence a growth-rate of the resident population of 1.81% in 1987, a value which corresponds well to those for surrounding periods: 1.7% per year for the period 1976 -1987, then 2.21% from 1987 to 1998.

In this context, the Mopti region stands out, with the weakest population growth of the regions of Mali if we exclude the 3 Saharan regions. Between 1987 and 1998, the population of the 5th region grew by 1.3% per year, while its natural growth-rate (birth-rate/death-rate) reached 2.82%. The deficit linked to emigration from the region reaches 1.5% per year. During the following two intercensal periods, the growth of the 5th region becomes stronger but still remains lower than that of the other Malian regions.

Table 9 on page 15 – Evolution of the population growth rate by region according to the period separating the various censuses (in %) – clearly highlights the lower demographic growth of the Mopti region compared to the other Sudanese or Sahelian regions, for both rural and urban populations.

The originality of the Mopti region (excluding Saharan territories) is therefore becoming clearer. It comes, to a large extent, from the specificity of the Inner Delta, a space where fewer people are born, where more die and from where more people emigrate.

**Table n°15: Population growth rate 1987 – 1998 by Cercles in the Mopti region**

Circles	Rate of increase	
	1987 -1998	1998-2009
<b>MOPTI</b>	<b>0,4</b>	<b>3,1</b>
BANDIAGARA	2,0	3,0
BANKASS	2,5	2,8
<b>DJENNE</b>	<b>1,6</b>	<b>2,7</b>
DOUENTZA	-0,3	4,3
KORO	2,0	2,8
<b>TENENKOU</b>	<b>0,6</b>	<b>2,3</b>
<b>YOUVAROU</b>	<b>0,8</b>	<b>2,2</b>
5 <sup>ème</sup> REGION	1,3	3,0

The 1987-1998 period follows the terrible drought of 1984, which hit the Sahel but also the Delta, which experienced the weakest flood of the century. The resumption of floods in the Delta only took place very slowly, with good floods only returning at the beginning of the new century. This situation largely explains the demographic behavior of most Sahelian Circles, like those covering the inner Delta. Indeed, the Circles with the highest growth rate, Bankass, Bandiagara and Koro, are located outside the Delta and at Sudano-Sahelian latitudes. The two most largely Sahelian Circles, Youvarou and Douentza, show an increase that is lower than the regional average with regard to the first, and, a drop in population (0.3%) as regards the second. Of the three circles located in the Delta, two – Mopti and Ténenkou – have a clearly lower growth than the regional average, which suggests a strong movement of emigration out of the Delta. The third – Djenné – located in the south of the Delta shows a population increase slightly higher than the regional average but which, however, remains lower than the growth rates of the circles located on dry lands at comparable latitude.

High mortality and low capitalization of its natural increase therefore single out the 5th Region of Mali. These features are further exacerbated in the demographic characteristics of the Inner Niger Delta. If mortality is a very old feature, the Mopti region and, within it, the Inner Niger Delta, also present other characteristics which differentiate them from other Malian regions and tend to make it a particular space marked by isolation and under-equipment. One feature will illustrate our point: the weakness of schooling.

In 1987, the Mopti region was in second-last place with regard to the schooling of children in general, and in the last place for girls (12.5% of girls enrolled for a national average of 21.7%). This weakness in schooling is only found in another Malian region marked by its isolation: that of Kayes. The under-education of girls is just as much a conclusive indicator of the region's under-equipment linked to its difficult geography as it is a factor accentuating certain demographic trends: high fertility, high child mortality, for example.

**Table 16: School enrollment rate for children aged 7 to 12 by gender and region of residence (in 1987 and 2009)**

Region	1987			2009
	Boys (%)	Girls (%)	Total (%)	Total (%)
KAYES	23,4	13,4	18,7	48
KOULIKORO	30,8	18,0	24,7	53
SIKASSO	29,0	15,9	22,7	50,6
SEGOU	34,5	21,2	28,0	44,7
<b>MOPTI</b>	<b>26,2</b>	<b>12,5</b>	<b>19,6</b>	<b>28,6</b>
TOMBOUCTOU	30,3	15,9	23,5	24,9
GAO	27,3	16,2	22,1	36,3
KIDAL				21,1
BAMAKO	98,4	78,9	88,6	78,5

In 2009, the Mopti region still lags far behind in the enrollment of children (1st basic cycle), as shown in Table 16, with an enrollment rate that has hardly changed in 20 years, but with, however, a significant difference: whereas in 1987, girls had very little education (index 47.7 girls for 100 boys), in 2009, they were more educated than boys (index 106.3 girls for 100 boys). This data, correlated with the decline in infant-mortality, marks how the region is slowly catching up with the Malian national whole, while retaining its specificity.

**We can legitimately ask ourselves what remains, in 2022, of the relative educational catch-up of girls in a region now massively plagued by armed groups claiming to be jihadist. In an analysis note from the GRIP – Group for Research and Information on Peace and Security – Boukary Sangaré notes that out of "93 schools in the circle of Ténenkou, only 13 are still functioning as of March 10, 2016". This reflection can no doubt also apply to health centers, thus ruining the progress made at the beginning of our century.**

### **3 – MUNICIPALITIES, TOWNS AND VILLAGES.**

#### **3.1 - Municipalities of different size and importance:**

**Map n° 3: Municipalities and main towns**

**Map n°4: The municipal population in 2009.**

The space of the Inner Niger Delta and Farimake which corresponds to our study area is spread over the territory of 51 municipalities. Three of them, Mopti, Djénné and Ténenkou, are urban municipalities, the other 48 are rural ones. They now replace 31 districts which depended on six

Circles, four belonging to the Mopti region and the other two, Macina and Niafunké, belonging respectively to the regions of Ségou (4th Region) and Timbuktu (6th Region).



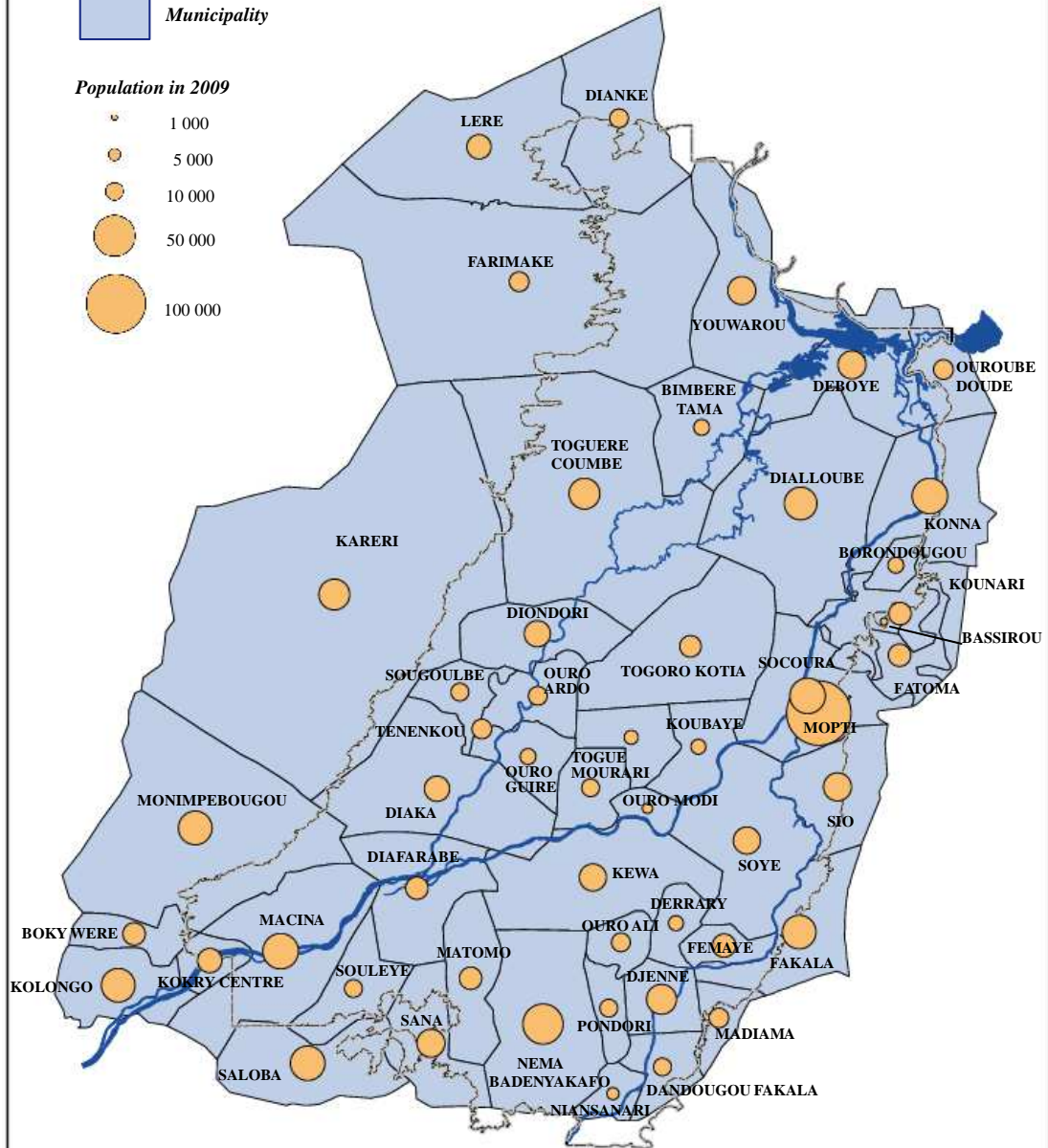
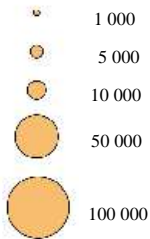
Map n° 4

## THE POPULATION OF THE MUNICIPALITIES IN 2009

### Legend

 Municipality

### Population in 2009



Scale : 1/1 400 000

0 25 Kilometers

J. Marie 2022

**Table n° 17: The 51 municipalities sharing the space of the Inner Delta and Farimake**

Name	Number of villages	Area in km <sup>2</sup>	Population surveyed 1998	Population surveyed 2009	Region	Circle
BASSIROU	6	37	1489	1 718	5	MOPTI
BIMBERE TAMA	10	590	5 290	8 239	5	YOUVAROU et TEN.
BOKY WERE	14	239	13 030	15 402	4	MACINA
BORONDOUGOU	5	114	6 532	8 070	5	MOPTI
DANDOUYOU FAKALA	10	262	8 812	9 410	5	DJENNE
DEBOYE	24	853	14 300	23 152	5	YOUVAROU
DERRARY	8	182	5 988	6 962	5	DJENNE
DIAFARABE	10	711	13 461	14 907	5	TENENKOU
DIACA	16	1 169	23 911	19 480	5	TENENKOU
DIALLOUBE	21	1 497	24 968	30 948	5	MOPTI
DIANKE	14	961	8 300	10 084	5	NIAFUNKE
DIONDORI	36	510	19 872	20 265	5	TENENKOU
DJENNE	11	281	19 233	26 267	5	DJENNE
FAKALA	30	583	22 269	33 714	5	DJENNE
FARIMAKE	23	3 591	6 937	11 916	5	YOUVAROU
FATOMA	24	301	10 557	14 910	5	MOPTI
FEMAYE	21	162	13 466	16 324	5	DJENNE
KARERI	39	5 049	17 691	27 794	5	TENENKOU
KEWA	16	1 024	20 329	22 025	5	DJENNE
KOKRY CENTRE	17	168	11056	15 569	4	MACINA
KOLONGO	37	476	24 836	34 176	4	MACINA
KONNA	26	838	27 198	36 178	5	MOPTI
KOUBAYE	8	341	5 396	6 571	5	MOPTI
KOUNARI	32	471	13 522	15 377	5	MOPTI
LERE	15	1 316	8 781	17 432	6	NIAFUNKE
MACINA	22	1 111	31 655	36 272	4	MACINA
MADIAMA	10	177	7 771	11 833	5	DJENNE
MATOMO	14	450	12 827	15 027	4	MACINA
MONIMPEBOUGOU	33	2 133	27 838	33 954	4	MACINA
MOPTI COMMUNE	2	12	79 867	108 382	5	MOPTI
NEMA BADENYAKAFO	28	1 035	35 841	45 636	5	DJENNE
NIANSANARI	6	145	4 308	4 743	5	DJENNE
OURO ALI	10	173	8 000	10 826	5	DJENNE
OURO ARDO	29	325	10 684	10 341	5	TENENKOU
OURO GUIRE	14	286	6 085	8 142	5	TENENKOU
OURO MODI	4	115	2 640	3 328	5	MOPTI
OUROUBE DOUDE	9	351	10 435	12 224	5	MOPTI
PONDORI	6	170	7 748	9 991	5	DJENNE
SALIBA	42	697	31 020	33 288	4	MACINA
SANA	27	500	21 297	23 342	4	MACINA
SASALBE	9	309	5 195	5 996	5	MOPTI et TEN.
SIO	19	539	17 659	24 130	5	MOPTI
SOCOURA	28	733	28 326	36 983	5	MOPTI
SOUGOULBE	17	228	7 365	9 255	5	TENENKOU
SOULEYE	10	387	9 088	9 867	4	MACINA
SOYE	26	929	17 093	21 223	5	MOPTI
TENENKOU	1	9	7 140	11 274	5	TENENKOU
TOGORO KOTIA	13	1 085	10 415	13 655	5	TENENKOU
TOGUE MOURARI	10	282	6 526	9 162	5	DJENNE
TOGUERE-COUMBE	33	2 544	26 182	27 575	5	TENENKOU
YOUVAROU	20	975	14 767	23 313	5	YOUVAROU
<b>TOTAL</b>	<b>942</b>	<b>37 426</b>	<b>747 179</b>	<b>1 012 910</b>		

These 51 municipalities extend over an area of 37,426 km<sup>2</sup> for a population of 747,179 inhabitants as listed in 1988 and 1,012,910 inhabitants in 2009. The criteria which specified a coherent

geographical framework and a population of at least 10,000 inhabitants per municipality – which corresponded to the conditions that generally prevailed in the districts, with the exception of Dogo and Gathi-Loumo – have not always been respected. Populations sometimes chose to request the creation of municipalities smaller than anticipated by the Decentralization Mission. Thus, when they were created in 1998, 18 municipalities out of 51 had fewer than 10,000 inhabitants (14 in 2009), the smallest two being Bassirou (1,489 inhabitants) and Ouro Modi (2,640 inhabitants).

The geographical criteria – a coherent territory – have not always been respected either. Apart from the case, already old and well-known, of the municipality of Mopti, whose territory is in two parts – Mopti-ville on the banks of the river and Sévaré on the edge of the floodplain –, the rural municipalities of Borondougou and Fatoma are also divided into two. Borondougou has a small territory (1.1 km<sup>2</sup>) located on the banks of the river and landlocked in the territory of the municipality of Kounari. Fatoma also has a small territory (6.2 km<sup>2</sup>), near the river in the municipality of Kounari. In both cases, these villages have chosen to join a municipality other than that encompassing their land, either because of old links with the main town of their chosen municipality, or because of a misunderstanding with their immediate neighbors, which made them reject any alliance with the latter. Finally, we note, most often, that the limits of Circles and Regions have been respected, apart from two particular cases: the municipality of Bimbere Tama, located in the Circle of Youwarou, also includes a village of the Circle of Ténenkou. The municipality of Salsalbé, for its part, includes 4 villages of the circle of Mopti and 5 villages of the circle of Ténenkou. The reasons, in this case, are to be found in the inhabitants' will to recreate an agro-pastoral territory, the Salsalbe Leiden.

The region has three urban municipalities. Ténenkou and Mopti occupy territories that can also be described as urban, with areas of 8.8 km<sup>2</sup> for Ténenkou and 11.9 km<sup>2</sup> for Mopti (including Sévaré). The case of Djenné is particular: its status is that of an urban municipality but its territory is that of a rural municipality by size (280 km<sup>2</sup>) and it includes 10 villages: Balle Seyna (270 inhab.), Diabolo (1,328 inhab.), Gornikouboye (230 inhab.), Kamaraga (252 inhab.), Kera (360 inhab.), Niala (660 inhab.), Souala (1,473 inhab.), Syn (605 inhab.), Welingara (228 inhab.) and Yentela (512 inhab.). The urban territory of Djenné, for a registered population of 19,558 inhabitants in 1998 (26,267 in 2009), occupies an island between two arms of the Mayoo Seeka, with an area of 43 hectares. This tiny site, completely surrounded by water, is saturated, with about 450 inhabitants per built hectare in 1998, which is very high, even considering that traditional houses built of adobe generally have one floor. The new urban territory of Djenné corresponds to the former district of "Central Djenné", which thus gives the city the possibility of extending its built space. When municipalities were created, a number of towns were allowed to encompass a territory corresponding to their former borough. Outside the Delta, some towns, capitals of circles and of the central district of the circle, have seen their "urban" territory extended to the territory of the central district. This is particularly the case of the town of Niono located in the Office du Niger, which was very cramped on its original site.

The territories of the 48 rural municipalities show very large differences in size, with a ratio of 1 to 136 between the smallest – Bassirou (37 km<sup>2</sup>) – and the largest – Kareri (5,049 km<sup>2</sup>). The average area of a rural municipality – 751 km<sup>2</sup> – has only very relative meaning, given the extent of the distribution. To us, the table in quintiles seems to be more representative, with 20% of municipalities having an area of less than 200 km<sup>2</sup> (smaller than the urban municipality of Djenné) and 20% – i.e. about ten – having a size greater than 1,000 km<sup>2</sup>. The small municipalities are located near Mopti, Ténenkou and Djenné, where the network of villages is tight. Conversely, the largest municipalities are located on the western margin of the Delta and are marked by an often very patchy distribution of villages.

There is no match between the size of the municipalities and the number of villages they include. The municipality of Femaye, small in size (162 km<sup>2</sup>), has 21 villages, while that of Togoro Kotia has only 13 for more than 1,000 km<sup>2</sup>; and while Kareri has the largest number of villages (39) – some of which are encampments – they are scattered over more than 5,000 km<sup>2</sup>.

The size of the municipal population also varies in very high proportions, and if we do not find the size ratio observed for the areas of rural municipalities (1 to 136), the ratio between the municipality with the smallest population and that with the largest population (urban municipalities excluded) is nevertheless 1 to 24. This reflects a rather extraordinary heterogeneity, if we retain the

fact that one of the major criteria for the division of the territory was precisely the size of the municipal population which should not – in principle – be less than 10,000 inhabitants.

Indeed, if 60% of the municipalities of the Delta had more than 10,000 inhabitants in 1998, 40% were below the defined threshold and, for some of them, which were very sparsely populated, the capacity to carry out their municipal functions could be questioned. In 2009, there were only 29% (14 out of 48) and this percentage should fall further since, out of these 14 municipalities, 6 of them have now more than 9,000 inhabitants. However, if we make a comparison with the situation which prevailed in 1998 throughout the national territory, we are led to note that in the Delta, the proportion of "small towns" – with fewer than 10,000 inhabitants – is lower than the national average (40% against 53%) and that of "large municipalities" proportionally higher (16% of the municipalities of the Delta exceed 25,000 inhabitants whereas this is true of only 6% of them on the whole of the territory). These values are also consistent with the fact that the old districts appear to be less cut out in the interior Delta than in the Mopti region and, a fortiori, in the other regions of Mali.

**Table n° 18: A comparison between arrondissements and municipalities.**

Territory	Number of boroughs	Number of municipalities	Ratio of municipalities /boroughs
Area under study	39	51	1,30
5th region (Mopti)	55	105	1,90
3rd region (Sikasso)	46	144	3,13
4th region (Ségou)	39	116	2,97
6 <sup>th</sup> region (Tombouctou)	31	51	1,64

In this comparison, the Inner Delta displays the singularity already highlighted with regard to its demographic characteristics. It is a region apart, which is sometimes more like the Saharan regions than the Sudanese regions of Mali. Does this mean, when we compare the characteristics of the division of the former arrondissements into municipalities, that the Inner Niger Delta is a region where spatial issues are less disputed than elsewhere? We will be careful not to venture such a hypothesis.

### **3.2 - Towns and villages:**

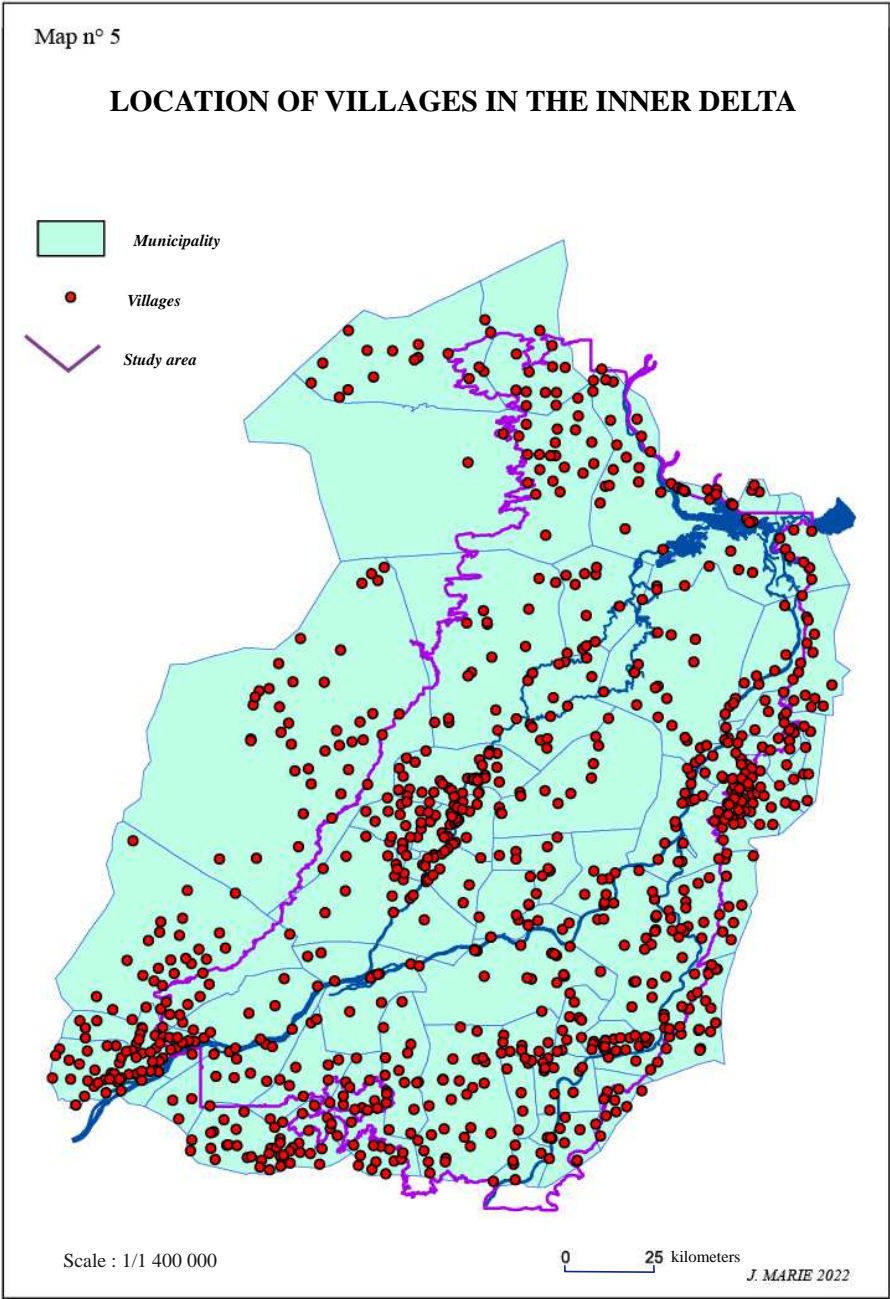
#### **3.2.1 - An irregular pattern of villages**

##### **Map 5: Municipalities and villages in the Inner Delta**

In 1998, the 51 municipalities of the Delta comprised 915 towns and villages, a total which grew to 942 in 2009. According to the definition of the B.C.R. – Central Bureau of the Census – the village "is a set of concessions grouped together in a given geographical space and which shelter households dependent on the same local authority or chiefdom." This definition emphasizes the fact that a village depends on a chiefdom, therefore on official recognition by the administrative authorities. In theory, the administration does not recognize a village if it has less than 100 inhabitants. In practice, the threshold can be much lower. Apart from the villages, there are temporary encampments of pastoralists and/or fishermen as well as cultivation hamlets commonly called Daaka. These hamlets are only recognized as neighborhoods of the village on whose land they are located. Data from the M.D.R.I. in 1998 make the distinction, for the same village, between a grouped population and a hamlet. This constitutes a first approach to the phenomenon of the Daaka but remains insufficient. The distribution that we propose is a distribution of the villages recognized as such by the administration and by the census.

Since 1976, the Republic of Mali has had an organization responsible for population censuses (1976, 1987, 1998, 2009). Therefore, our work no longer relies on administrative counts made for tax purposes, but on real censuses, carried out in a limited time (two weeks after the villages and district plans for the cities have been mapped). At the time of the censuses – in particular that of 1998 which took place at the same time as the negotiations on the regrouping of villages –, a certain

number of hamlets had become villages. The phenomenon is particularly marked for certain bi-ethnic villages made up of two districts, sometimes distant from one another by only a few dozen or so hundred meters, and now counted as two different villages retaining their initial name as a common prefix, followed by that of each ethnic group to distinguish them from each other. The hamlet phenomenon is largely absent from this official distribution of villages



Map n° 5 shows a very high concentration of towns and villages along an arc which follows the eastern edge of the inner Delta and extends throughout its southern part, thus showing the importance of the contact between the Delta and its eastern dry margin. The south-east of the Delta has a high concentration of villages dependent on the irrigated perimeters of the “Office du Niger”. Inside the Delta itself, three subsets stand out: the Ténenkou region, the historic Macina, with a high

concentration of villages north of the town of Ténenkou on the banks of the Diaka and its tributaries, along the Niger river between Mopti and Konna, with a series of villages which in terms of size are rather large towns, finally along the Mayo Moura. The deep basins, like the highlands of the central axis which extends to Peru Dialloubé, are very sparsely populated.

Another method for analyzing the distribution of villages in a flooded environment consists in seeking suitable sites for the establishment of permanent human settlements: one of the conditions to be verified is that they must be sheltered from the most frequent floods. Temporary seasonal housing is not subject to the same constraints. A camp can very well be placed in a place that is flooded at high water. Similarly, the series of very low floods in the 1980s and the beginning of the 1990s prompted the inhabitants, especially the rice-growers, to build hamlets in lower areas in order to open up rice-fields in regions devoid of mounds that can protect them from flooding. These non-floodable mounds form the privileged base of the permanent habitat. If necessary, a mound that has become too narrow to absorb the growth of buildings will be backfilled: the Mopti site provides a very good example.

#### **Map n° 6: The Togge: main building sites**

This research is based on a shape containing only the mounds called "togge" ("toggere" in the singular). The TOGGUE1 shape only contains vegetation zones of the "T" type or mosaics associating a slightly flooded formation with a "toggere", that is to say the 33 vegetation formations of the TA, TB, TC or TA/TC types.... These 3,156 vegetation zones, within the limits of the reference flood (6.60m) which surrounds the Delta, combine to form the "Togge", the exposed mounds in the Delta on which the inhabitants build permanent habitats, cities, villages or hamlets.

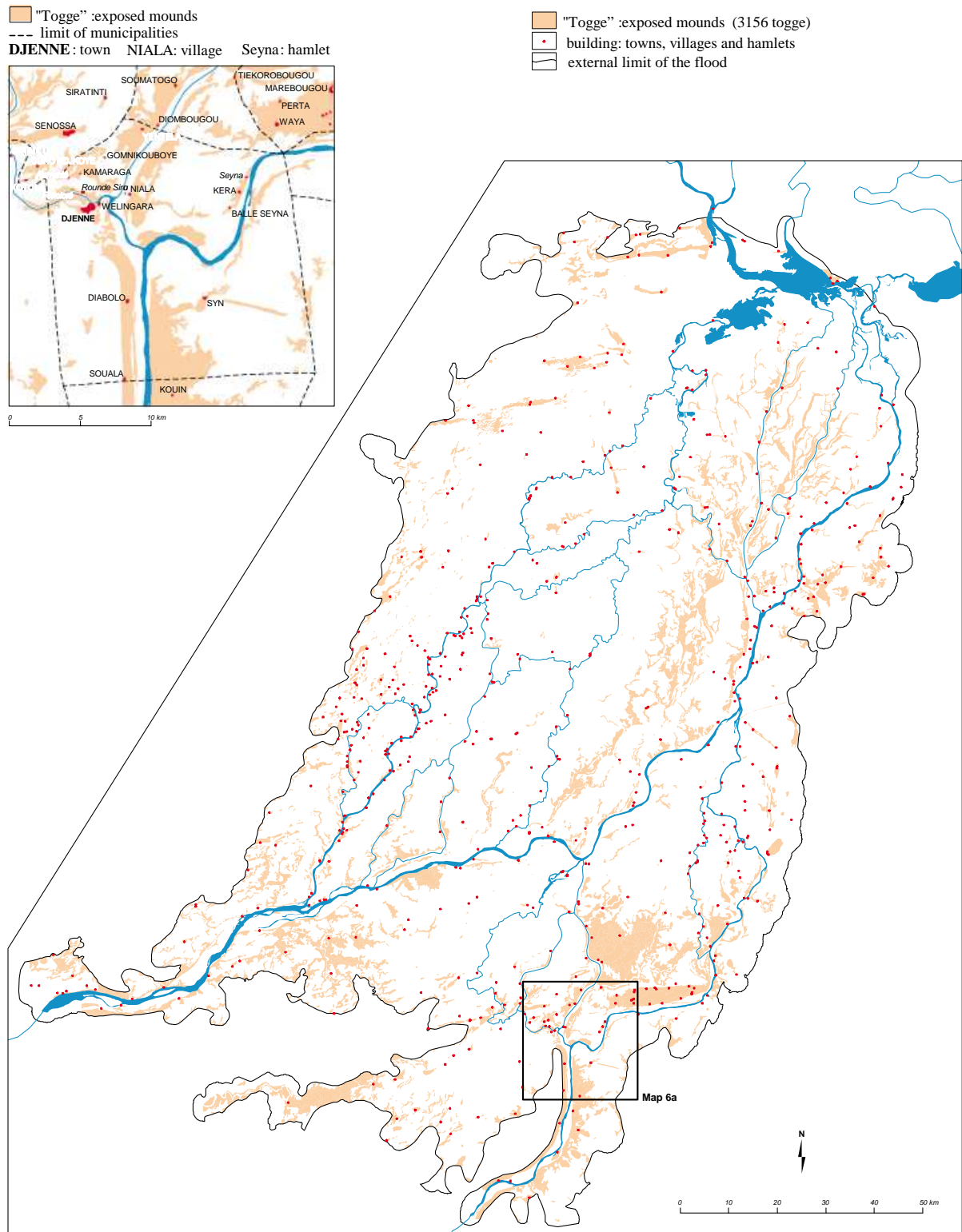
This map represents the distribution of these mounds in the Inner Delta and indicates (in red) the 609 spaces built in 1980. Eleven of these built spaces are towns, 519 are villages and the other 79 are hamlets or Daaka that existed at that time. A Daaka can be a small hamlet, with a few adobe houses or a few straw huts, but it can also be the size of a village. However, it is not officially recognized and therefore depends on an official village for its administration. The comparison of the map of the Togge and that of the villages in 1998 shows a good relationship between the two distributions, with the exception of Peru Dialloubé in the northeast of the Delta, which is very sparsely populated. This comparison also shows that the center of the Delta, which is sparsely populated, is also an area with few hillocks and where, as a result, permanent human settlement is difficult. The example of the urban municipality of Djenné (Map n°6) shows that almost all the buildings are located on these mounds, with the exception of Goumnikoukoye and Nyala, standing on formations that are not very flood-prone (ZB - flood zone peaks and MB - mosaic of banks)

## BUILDING SITES IN THE FLOOD ZONE

**Map n° 6a The urban municipality of Djenne**



**Map n° 6b : TheTogge: main building sites**



### 3.2.2 - The weakness of the urban network: a recent development?

A question that can be asked concerns the existence of an urban network in the inner Delta. The B.C.R considers "all the capitals of Regions, municipalities and Circles as well as any locality populated by 5,000 inhabitants or more" as urban centers, while recognizing that "this definition is certainly not satisfactory but [that] it has the merit of constituting a point of reference in the future search for improvement."

**Table n°19: The twelve towns in 1998 according to the criteria of the B.C.R.**

Municipality code	Name	Population 1998
5191	MOPTI	51 620
5191	SEVARE	28 852
5411	DJENNE	12 703
4401	MACINA	5 464
5709	DIA	5 734
5701	DIAFARABE	6 268
5710	TENENKOU	7 675
4404	BOKY-WERE	3 465
5104	KONNA	3 993
4408	MARKALA	5 791
5406	PANA	2 728
5807	YOUWAROU HOMBOLORE	4 665

For population data, the B.C.R. used as a projection established from the 1987 census. According to this estimate, the 51 municipalities of the Delta are considered to include 12 towns, counting Mopti and Sévaré separately, with 9 of them having more than 5,000 inhabitants and the last, Youwarou Hombolore, the capital of a Cercle, being just below this limit.

The 1998 census strongly corrects the estimates of the B.C.R, since 4 "towns" have a population below the limit set by the B.C.R. On the other hand, the B.C.R. does not seem completely satisfactory to us: a town is, of course, defined by its size, but just as much by its functions. The definition of the B.C.R. makes room for this concept, but reduces it to administrative functions alone, which seems too restrictive to us.

The equipment of towns and villages in 1998 appears in the CD-ROM n°2 of the M.D.R.I. does not correspond completely with that appearing in the village directory of the 2009 census, which simplifies the nomenclature.

**Table n° 20 : The structuring elements of urban life (B.C.R. 1998):**

<b>HYDRAULIC</b>		<b>BREEDING</b>	
Water hydrant	B_F	Veterinary pharmacy	PHAR_VETO
Drilling	FOR	Vaccination park	PARC_VAC
Well	PUITS	Cattle market	M_BETAIL
		Slaughterhouse	ABAT
<b>EDUCATION</b>		<b>ECONOMY</b>	
Basic school 1	EF1	Village bank	CA_VIL
Basic school 2	EF2		

Secondary school	E_SEC	Cereal bank	BAN_CER
Madrasah	MEDER	Weekly market	MARCHE
Literacy Center	C_ALPHA	Transport station	G_ROUTE
		Gas station	STA_SERV
HEALTH			
Hospital	HOP	ADMINISTRATION	
Clinic	CLINI	Campsites	CAMP_AD
Dispensary	DISP	People's House	M_PEUPLE
Maternity	MATER	Civil registration center	ETAT_CIVIL
CSCOM	CSCOM		
Pharmacy	PHARM	CULTURE	
PMI (baby and mother care)	PMI	Movie theater	CINE
		Radio	RADIO

The criteria used in the 2009 census are very simplified compared to 1998:

**Table n°21: equipment included in the 2009 census**

Equipment	Designation in the G.I.S.
Cereal Bank	BAN_CER
Administrative camp	CAMP_AD
Savings bank	CAIS_EP
Health center	CEN_SAN
School	ECO
Market	MAR
Post office	POSTE
Pharmacy	PHARM
Modern watering-place	RDB
Gas station	STA_SERV

(see equipment\_1998 and equipment\_2009 shapes to download.)

We have also chosen – and this arbitrary choice can be discussed – to consider as a town an agglomeration meeting the following criteria:

- a population of at least 3,000 grouped inhabitants
- at least four structural elements, including a school and health facilities

**Table n° 22: The eighteen towns of the study area in 1998**

Name	Pop1998	Administration	School	Health	Economy
MOPTI <sup>3</sup>	79 867	Reg	??	??	??
DJENNE	12 565	Cer Arron Com	EF1 EF2	D Ph Mat	Mar Gr Ca_vil M_bet
MACINA	7 949	Cer Arron Com	EF1 EF2	D Ph Mat	Mar Sta_serv Gr M_bet
DIA	7 805	Com	EF1 EF2	Ph Cscm	Gr
DIAFARABE	7 275	Arron-Com	EF1 EF2	Ph Cscm	Gr Mar Ph_veto
TENENKOU	7 140	Cer Arron Com	EF1 EF2	Ph Mat	Gr Mar M_bet Ph_veto

<sup>3</sup> The equipments for Mopti do not appear on the CD-ROM provided by M.D.R.I. Besides, Sévaré is counted as a part of Mopti.

KONNA	6 424	Arron-Com	EF1 EF2	D Ph Mat	Gr Mar B_cer M_bet
YOUWAROU	4 959	Cer Arron Com	EF1 EF2	Ph D	Mar Ph_veto
LERE	4 653	Arron-Com	EF1 EF2	D Mat	Gr Mar Ca_vil Ph_veto
SENDEGUE	4 246	Arron-Com	EF1	D Ph	Gr
SOFARA	4 116	Arron-Com	EF1 EF2	D Ph Mat	Gr Mar Ban_cer Ph_veto
SARRO	4 308	Arron-Com	EF1 EF2	D Ph Mat	Mar Ca_vil M_bet
SAYE	3 503	Arron-Com	EF1 C_alpha	D Mat Ph	Ca_vil Ban_cer
SOUFOUROULAY E	3 228	Arron-Com	EF1 EF2	Cscom Ph	Ca_vil M_bet
FATOMA	3 213	Arron-Com	EF1 EF2	Ph Mat	GR Mar Ban_cer Ca_vil
TOGGERE COUMBE	3 149	Arron-Com	EF1 EF2	Cscom	Mar GR M_Bet
KOLONGOTOMO	3 060	Arron-Com	EF1 EF2	D Ph Mat	Mar Ph_veto
SOCOURA	3 022	Com	EF1	Cscom Ph	Ca_vil

If we use these criteria, we find that out of the 32 agglomerations with more than 3,000 combined inhabitants, 18 can be classified as towns. The three urban municipalities, first of all, with Mopti as the primary town in the region (and the 4th agglomeration of Mali with Sévaré). The others are small towns. Excluding Mopti, this count brings us to a total of 17 towns for 897 villages, with an urban population of 170,482 inhabitants in 1998. Mopti accounts for more than half of this urban population, the other 17 cities having an average of 5,330 inhabitants each. A certain number of large agglomerations have not been considered as towns or are on the verge of becoming such: this is particularly the case of Pana (2,728 inhabitants) the capital of a municipality but without facilities, of Boky-Were which claims 3,465 inhabitants in 1998 but has only weak facilities (EF1, 2 Medersa – or Koranic school –, 1 cereal bank and 5 water points) or even Markala in the municipality of Monimpebougou which claims 5,791 inhabitants (1998) but has virtually no equipment (1 EF1 and a vaccination park).

Ultimately, according to this count, the region studied has three urban municipalities (Mopti, Djenné, Ténenkou) and 48 rural ones, fifteen of which have, small towns as their municipal capitals (Map n°7). With the exception of Léré, located to the north in Farimake, all these towns belong to the inner Delta and are located on two alignments: the eastern border in the broad sense (including Djenné), and a Niger-Diaka axis which goes from Kolongotomo and Macina in Ténenkou. For these rural municipalities, having a small town as their capital may seem to be an advantage and a differentiating factor compared to others, which were less well endowed at the start.

In 2009, four localities which are rather large towns were added to the previous list. These towns, in addition to their administrative functions, provide social and commercial services to their municipalities. The urban population then increased to 250,123 inhabitants.

**Table n° 23: the four new small towns in 2009**

Name	Pop 2009	Administration	School	Health	Economy
DIALLOUBE	5 987	Arron com	2 EF	2 Cen_san	Mar
SENOSSA	4 272	Com	2 EF	Cen_san	Mar Ban_cer
MADIAMA	3 353	Com	4 EF	Cen_san Ph	Mar Ban_cer
MONIMPEBOUGOU	3 180	Arron Com	3 EF	Cen_san	Ca_epa Mar

Map n° 7

## THE INNER DELTA URBAN NETWORK IN 2009

### Legend

#### POPULATION 2009

● 2166 - 7364

● 9691 - 17046

● 43756 - 64626

■ River

■ Municipality

— Study area



J. Marie 2022

### 3.3- The municipal population and the population of the Delta

The 51 municipalities encompass the Inner Niger Delta and Farimake. The study area defined by the limits of the plant formations participating in the natural landscapes of the Delta is more restrictive than the municipal limits, but it also includes the Farimake and more or less extensive dry margins. The problem therefore arises of defining the limits of the live Delta and of answering the following question: how many inhabitants live within these limits?

To tackle this problem, we used two different methodologies. The first is used in relation to the limits of the study area (shape LIMIT2). We simply assigned an index to each town and village based on its position relative to this boundary.

- index 1: inside the study area
- index 2: on the margin and up to a distance of 500 m outside the limit
- index 3: belonging to the municipalities but outside the 500 m limit

The other method consisted in using the model in isolines of the depths of submersion, to determine the envelope curve of the "reference flood", which means that the toge and more generally all the spaces normally out of water but located inside this envelope are taken into account. The use of a spatial operator (INTERSECT) between the shape bearing the envelope curve and that of the villages (VILLAGE2) gives us a shape VILLA\_LIM1 where only the villages contained in the envelope appear.

So we have four sets of data, for four censuses (1976, 1987, 1998 and 2009), which allow us to make comparisons and try to define the "inner Delta population".

**Table 24 a, b, c: Urban and rural populations from 1976 to 2009**

**24-a: in the 51 municipalities of the Delta**

Population	2009*	1998*	1987	1976	Number of towns or villages
urban	250 123	170 482	94 236	68595	22
rural	775 191	573 862	567 403	490 241	892
total	1 025 314	744 344	662 897	555 776	914

\* In 1998 and 2009 we classify as "urban" the towns defined in the previous paragraph.

**24b: within the strict limits of the ecological study**

Population	2009	1998	1987	1976	Number of towns or villages
urban	124 193	113 002	103 932	68 595	9
rural	513 826	407 697	337 277	307 299	561
total	638 019	477 507	459 107	387 412	570

**24 c: within the limits of the flood of 660 cm**

Population	2009	1998	1987	1976	Number of towns or villages
urban	124 193	89 464	76 626	59 240	6
rural	404 266	308 445	305 782	248 439	443
<b>total</b>	<b>528 459</b>	<b>397 909</b>	<b>382 408</b>	<b>307 679</b>	449

\* In 1987 and 1976 only the three "official" towns (Mopti, Djenné and Ténenkou) are retained.

In 2009, the 51 municipalities of the Delta had one million inhabitants, giving an urbanization rate of 22%. In 1998, the urbanization rate was 21.5%. The comparison for previous periods is more delicate because the definition of towns has changed: in 1987 and 1976 we kept the official list of the 3 towns (Mopti, Djenné and Ténenkou). We did not apply the criteria used by the B.C.R for selecting urban entities for those two periods because, although the criterion of size (more than 3,000 inhabitants) could easily be kept, it was not possible for us to compare the level of equipment. If we consider only the three "official" towns (but were there others for these periods?), the rates of urbanization were 12% in 1976 and 14% in 1987.

In 1987, the urbanization rate in Mali was 22%. We can simply draw from these figures the idea that the 51 municipalities surrounding the Delta are rather less urbanized than the national average.

The comparison of the rural population is richer in lessons: while the 51 "Delta" municipalities show a rural population (rounded to a thousand) of almost 800,000 inhabitants in 2009, only 510,000 of them live within the limits of the ecological study and 404,000 within the flood limits of 660 cm, which can be a good definition of the "Wet Delta". In 1976, within the limits of the flood, there were hardly more than 248,000 rural inhabitants and 305,000 in 1987. At the end of the 1950s, Jean Gallais suggested a figure of 314,000 rural inhabitants for the population of the inner Delta, which largely included the dry margins since the reference surface exceeded 30,000 km<sup>2</sup>. The spread of the reference flood curve of 6.60m only extends over 17,565 km<sup>2</sup>. The calculation of rural population densities shows an advantage for the "Wet Delta" compared to the territory of the 51 municipalities (23 inhabitants/km<sup>2</sup> against 21.3 inhabitants/km<sup>2</sup>) but this comparison is somewhat distorted by the existence, on the western margin, of very large, sparsely populated municipalities, with territories mostly located in the Dead Delta. In 1976, the population density within the limits of the "Wet Delta" was only 14 inhabitants/km<sup>2</sup>. It is close to the density calculated by Jean Gallais of 10 inhabitants/km<sup>2</sup> at the end of the 1950s, showing the weakness of population growth during this period.

### 3.4 – The evolution of the population within the municipal framework

#### 3.4.1 - Densities (Map 8 a,b,c,d)

General densities of population were calculated within the current municipal limits for the four censuses (1976, 1987, 1998 and 2009), as well as growth-rates calculated for the three intercensal periods (1976-1987, 1987-1998 and 1998-2009). The calculated densities are therefore "fictitious" for the periods preceding 1998, insofar as the municipalities did not exist. They do, however, form a frame of reference which it was convenient to take as a basis for comparison.

The thresholding of population densities was carried out on rural municipalities (but including Djenné whose territory – 280 km<sup>2</sup> – has the characteristics of a rural territory), by quintiles on all three series.

In 1976, the general density of the territory of the 51 municipalities was 13.8 inhabitants/km<sup>2</sup>, but 14 municipalities comprising 60% of this territory had a density of less than 13.8 inhabitants/km<sup>2</sup>, thus occupying the western part of the Delta as well as the center (Togoro Kotia). The higher densities appear along the eastern and southern edges of the Delta, but present moderate values of less than 30 inhab/km<sup>2</sup>. Only 4 small territories representing only less than 2% of the total area of the whole have densities exceeding 40 inhabitants/km<sup>2</sup>.

In 1987, the general appearance of the map showed little change. The general density of the whole area fell from 14.9 inhab/km<sup>2</sup> to only 17.7 inhab.km<sup>2</sup>. There is an increase in densities north

of Ténékou (Diondiori and Ouro Ardo) as well as in some of the municipalities on the eastern and southern borders (Sio, Soye, Kounari). During that same period, the large municipalities located to the west remained in the same class of low densities, but in reality experienced a relative decline in their populations, leading to a drop in densities: Kareri goes from 3 to 2.7 inhab/km<sup>2</sup>, Farimaké from 2.8 to 1.96 inhab/km<sup>2</sup>, Léré from 4.5 to 4.1 inhab/km<sup>2</sup>, Dianke from 12.9 to 5.2 inhab/km<sup>2</sup>. In these municipalities, all located in the Dead Delta, the dry western edge of the Inner Delta, the inhabitants suffered harshly from the long, very dry period of the 1980s, which led to the exodus of part of the population. In the southern center of the Delta, the municipality of Kewa regressed (dk going from 13.8 to 12.5 inhab/km<sup>2</sup>) in relation to the poor water supply of the Yongari-Mangari basin during this period.

In 1998, the evolution of densities was further confirmed, in particular for the municipalities on the southern edge of the Delta, while the densification of those located on either side of the banks of the Niger, between Diafarabé and Mopti, began. (Diafarabé, Kewa, Togue Mourari, Ouro Modi, Koubaye, Soye and Sio.

In 2009, the increase in densities of the arc going from south to east was again confirmed, accompanied by the reinforcement of the central core, north of Ténékou, in historic Macina. While the highest rural densities did not exceed 52 inhabitants/km<sup>2</sup>. on very small areas, in 2009, ten municipalities had densities of between 50 and 104 inhabitants/km<sup>2</sup> in a cumulative area reaching 50% of the total surface area of the municipalities of the Delta. Such high values pose the problem of population-resource adequacy on these territories.

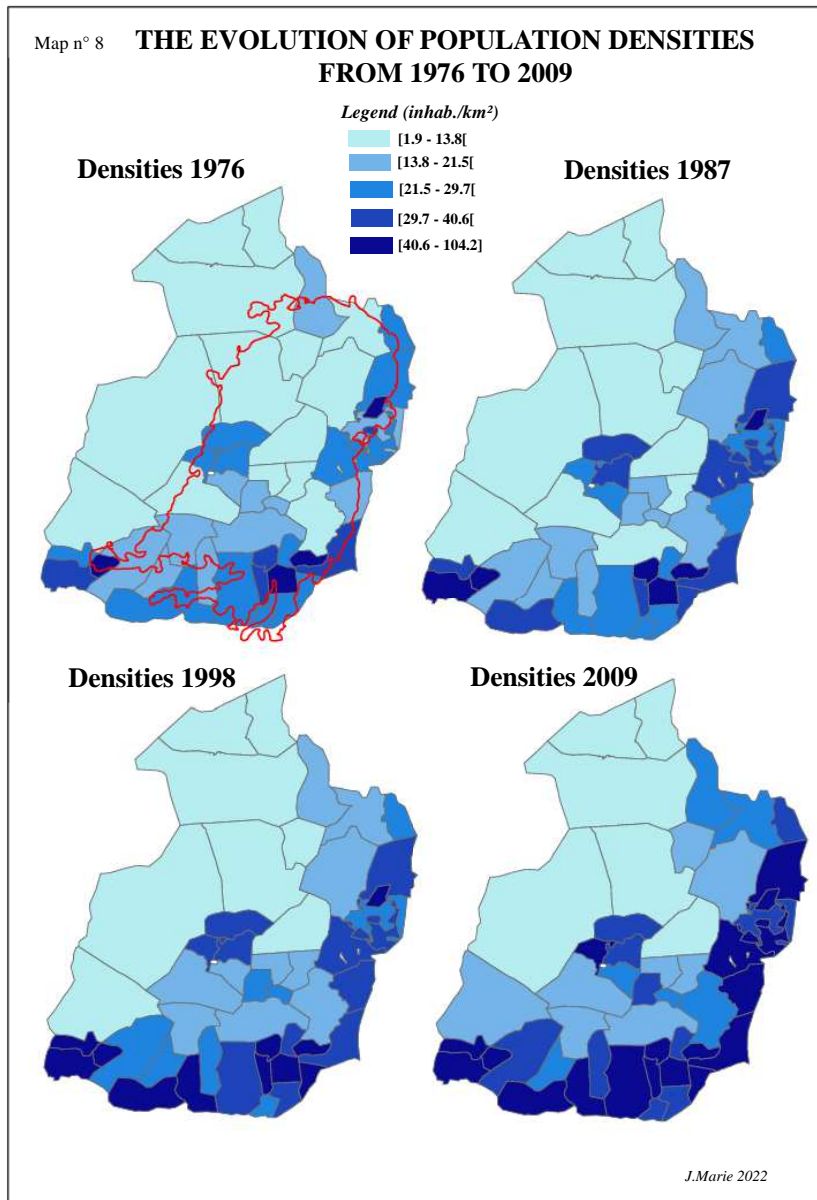
**Table 25: The evolution of population densities between 1976 and 2009**

<b>Population size</b>	1976	1987	1998	2009
<b>Quintile area1 (in km<sup>2</sup>)</b>	22 280	19 805	18 295	14 547
<b>- In % of the surface of the 49 municipalities</b>	59,5	52,9	48,9	38,9
<b>Population quintile 1</b>	144 079	120 288	117 818	108 828
<b>- In % of the surface of the 49 municipalities</b>	25,9	18,1	15,8	10,6
<b>quintile 5 area (en km<sup>2</sup>)</b>	723	1372	2 547	7 159
<b>- In % of the surface of the 49 municipalities</b>	1,9	3,7	6,8	19,1
<b>Population quintile 5</b>	36 447	72 792	131 701	392 601
<b>- In % of the surface of the 49 municipalities</b>	6,6	11	17,7	38,3

Table 25 represents the importance (absolute and relative) of the surface area and of the rural population (Mopti and Tenenkou excluded) of the 49 municipalities included, between 1976 and 2009, in the 1st quintile of the density maps (dk between 1.9 and 13.8 inhab/km<sup>2</sup>) and in the 5th quintile (dk between 40.9 and 104.2).

The table shows that in 1976, nearly 60% of the total surface area of the municipalities had low or very low densities. Conversely, the high densities only concerned a very limited number of inhabitants (36,447), i.e. 6.6% of the rural population at that date.

In 2009, the situation was almost reversed. The cumulative area of municipalities with low density is only 38.9% of the total area and the population concerned is just over 10%. On the other hand, the rural population living in municipalities with high densities represents almost 40% of the total population grouped together on almost 20% of the area of the municipalities.



### 3.4.2 - Population growth rates (Map n°9 a,b,c)

On the maps of the rates of increase, light colors are used to represent negative increases associated to the first two classes [-8 to - 1%[ and [-1 to 0%[. The dark shades represent positive increases with three classes [0 to 1.5[; [1.5 to 3[; and [3 to 5].

Between 1976 and 1987, the territories of the northwestern border, from Dianke to Kareri, lost population while that of Monimpébougou, just to the south, increased sharply. As the analysis of cultivated areas will show, this suggests, a population shift took place along this dry margin at a time particularly affected by drought. The territories of Diafarabé, Kewa and Nema Badenyakafo also show negative growth rates. The territories experiencing very strong growth, in addition to Monimpébougou, are mainly those of Salsalbe, Togoro Kotia, Toguéré Coumbé, Ouro Ali and Deboye, which all had low or very low density in 1976. As will be shown by the study of cultivated areas, these central territories, – at least Togoro Kotia, Salalbé and Toguéré Coumb – were host lands for rice-growers coming from badly flooded regions of the Delta throughout the period.

The following period looks quite different. The growth-rates are strong in the north (Léré and Dianke (possibly suggesting a recovery of the population, after the drought?), and in the southern part of the Delta, on the dry lands. In the Wet Delta, Kewa and Diaka are growing strongly. Toguéré Coumbé, Togoro Kotia, and Salsalbé, which showed strong increases during the previous period, are now experiencing relatively weak increases. We will see in the next section devoted to the evolution of cultivated areas, that these phenomena are probably related to the return of better floods from 1994.

We asked ourselves whether the Inner Niger Delta was a region of emigration, as suggested by the marked difference between the rate of natural increase and that of the resident population, which is much lower.

The examination of the population growth maps replaced in the current municipal territories shows strong contrasts. The spatial distribution of these rates also changes from one intercensal period to another, which suggests that, in addition to the emigration of part of its population outside the region, the Inner Delta is experiencing strong internal migratory movements.

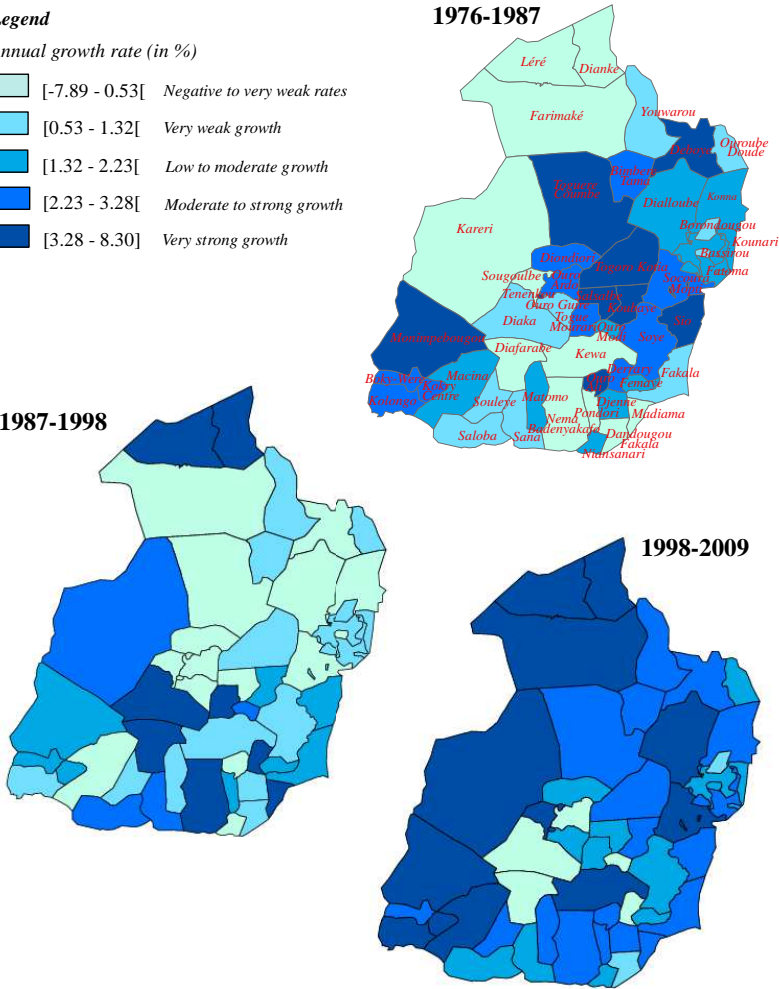
Map n° 9

**EVOLUTION OF POPULATION GROWTH RATES  
IN THE 51 COMMUNES OF THE INNER DELTA (1976-2009)**

**Legend**

Annual growth rate (in %)

- [-7.89 - 0.53[ *Negative to very weak rates*
- [0.53 - 1.32[ *Very weak growth*
- [1.32 - 2.23[ *Low to moderate growth*
- [2.23 - 3.28[ *Moderate to strong growth*
- [3.28 - 8.30] *Very strong growth*



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**4 - CONCLUSION**

At the turn of the century, like the whole of Mali, the Inner Niger Delta experienced a radical reform of the organization of its territory, moving from centralized management to decentralization,

with, for the Delta, the creation of 51 municipalities responsible in particular for economic development. In this very particular territory, the municipalities superimposed themselves on a territorial organization dating back to the beginning of the 19th century, which used to divide the space into 31 pastoral territories, the leyden, in charge of the organization of transhumance and its management of pastures and renewable natural resources. How this substitution took place will be analyzed in part 4, devoted to pastoralism. The new land laws of Mali oppose private property and customary rights exercised on the private domain of the State, but do not recognize the exercise of rights of different natures, conceded to different people or communities (and according to specific timetables) and exerted on renewable natural resources, which organize the rights of each according to hierarchical land control. This different way of thinking about the relationship between man and the environment could encourage the management of land and renewable resources according to so-called "land-environment" methods, which are less prone to conflict than current practices.

Although the State recognizes economic development as the prerogative of the municipalities, it does not, however, give them responsibility for the management of land. For the most part, the latter remains in the form of customary rights largely in the hands of the village clans which form the backbone of the villages in each municipality, thus raising the risk of conflict between the communal authority, which derives its legitimacy from elections and the village authority, which is recognized by the administration and derives its legitimacy from custom. The Local Convention, an amicable agreement between two stakeholders (a group of users with a village, a village with its municipality, etc.) officially registered with the circle commander supposedly makes it possible to resolve the contradiction arising from the duality of powers. Its frequent diversion for purely political purposes has considerably weakened this type of negotiation and leaves the door open to many abuses and conflicts.

The Inner Delta is also a region with very particular demographics: its birth-rate is lower than in the other regions of Mali, and it has a higher mortality linked to infant mortality which, in the 1980s, still killed one out of two children before their fifth birthday. These are the two main characteristics of regional demography. -With education rates among the lowest in Mali, the picture of a region plagued by "poor development" is thus completed. At the turn of the century, the region was beginning to catch up with the other major regions of Mali when it found itself confronted, as it still is, with the disorders and violence that accompany movements claiming jihadism. The progress made was thus jeopardized.

The Inner Delta was sparsely populated for a long time, but from 1976 to 2009, its population densities increased sharply. Currently, the high densities are located in the municipalities located on the borders south and east of the Delta and in a core-area around Ténenkou. With the highest densities reaching 100 inhabitants/km<sup>2</sup>, the question of the population-resource balance arises, and with it, that of the possibility of sustainably supporting this demographic growth.