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Article

Towards a systemic approach to the development of the Nabeul coastline

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Abstract - The purpose of this paper is to question a possible renewal of the temporalities of urban projects in Tunisia following the adoption of principles related to the exploitation of marshy areas. It is about understanding how to transform wetlands in the production and management of urban spaces. The importance of this text can be operated as follows: in the absence of a real will to apprehend the transformations of wet spaces on a rational basis forged by spatial equity, we try to present a new method based on the use of new tools (PLS SEM) in the definition of the organization of territories. Our approach is to use the lessons that have been learned from previous failures in order to format a new model based on a purely systemic approach.

Key words: Planning, PLS SEM, coastline, collective intelligence

Résumé - L'objet de cet article est d'interroger un éventuel renouvellement des temporalités des projets urbains en Tunisie à la suite de l'adoption de principes liés à l'exploitation des espaces marécageux. C'est le fait d'appréhender la façon de transformer les territoires humides dans la production et la gestion des espaces urbains. L'importance de ce texte peut être opérer comme suit : en l'absence d'une volonté réelle d'appréhender les transformations des espaces humides sur une base rationnelle forgée par l'équité spatiale, nous tentons de présenter une nouvelle méthode fondée sur l'exploitation des outils nouveaux (PLS SEM) dans la définition de l'organisation des territoires. Notre démarche consiste à utiliser les leçons qui ont été tirées des échecs précédents afin de formater un nouveau modèle basé sur une approche purement systémique.

Mots clés : Aménagement, PLS SEM, littoral, intelligence collective

Introduction

The interactions between water and society have put the coastline in front of a major dilemma that continues between the protection of the environment and the development of human activities related to tourism. Because it is an original environment in bio-geo-physical terms, the multiplicity of uses and the attraction it has on populations make the coastline an area of tensions and conflicts of different temporality.

In eastern Tunisia, the coast was always confronted with conflictual management between the actors through the definition of the best organization. This territorial planning process crystallizes tensions that hide a conflict of interest between the Coastal Protection and Planning Agency (APAL) and the municipality. This dilemma requires the development of configurations of alliance between the various actors to take advantage of the political capacities of the central power (APAL) and the regional competences in the construction of a territorial planning which respects nature while preserving the economic power of this sensitive space. It is the fact of building a form of cooperation and consultation between the various stakeholders in the planning action around a common point of reference (Pasquier, 2004). The coast therefore found itself weighed down between civic practice and institutionalization. In fact, this interface space between the sea and the land is characterized by an evolution fueled by multiple natural and socio-economic factors (Paskoff, 1993). This essentially relates to the mechanisms of territorial governance and the functioning of institutional practices.

We therefore propose to define an innovative arrangement that combines both participation and publicity (Taiclet, 2007) in order to strengthen the readability of public action. It is a form of negotiated redefinition of coastal development in terms of its appreciation and future accommodation.

The coast of Nabeul has long been characterized as functional spaces by excellence that attracts the attention of various urban activities, especially those of high investment value and low consumption of space. All this without taking into account climatic changes and the resulting advance of the sea, and the pressure of the building in the area of the back beach which only produces the fixation of the coastline and the nourishment of the seawater processes. coastal erosion. The negotiation of the development of this coast must take into account its natural and anthropogenic phenomena, and must deal with the production of an environment capable of bringing together the opinions of the various stakeholders.

I- The coast of Nabeul: varied morphologies

Locating a boundary between the sea and the land often seems delicate and difficult both due to the dynamics of the coastline. For Parker (2001), this space has never ceased to inspire the work of various researchers and experts to position it. In fact, Bird (2007) identified the usefulness of distinguishing between two essential lines in the study of coastal dynamics, namely the shoreline and the coastline. The shoreline which designates the shore line for this author, the shoreline is only the limit of the body of water according to the fluctuations of the shore jet and the tide on the other hand the coastline coincides with the coastline and can be materialized according to the type of coast by the foot of

the cliff or the limit of the terrestrial vegetation.

These lines are the most usable in coastal kinematics (Kraus and Rosati, 1997; Morton and Speed, 1998; Bonnot-Courtois and Levasseur, 2002; 2003; Robin, 2002; Boak and Turner, 2005).

In fact, the study of the geomorphology of the beaches allows us to see the current state of the beach even before proceeding with the study of the development so that this step allows us to identify the healthy places that can accommodate any attempt at planning, and places damaged or potentially endangered by coastal erosion.

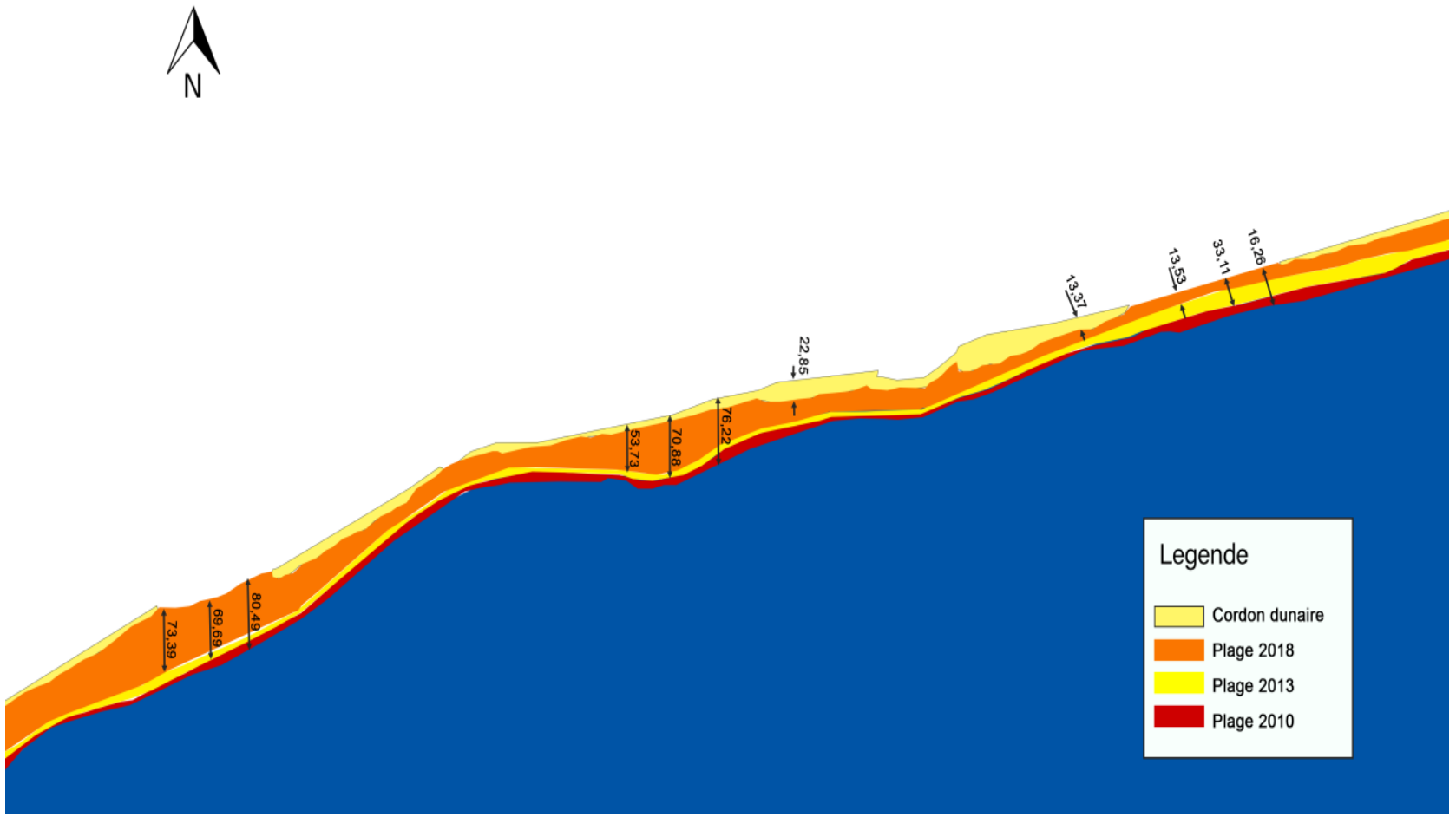
A perfect diachronic study must take into account all its cartographic supports while minimizing imperfections as much as possible. In all of this, we were faced with a need to visually interpret the two reference lines directly in the field and indirectly using multi-date aerial photos. All this in order to clear the shorelines, the wetting limits and the vegetation limits at totally different stages to see the current state of the beaches and the factors of degradation.

For the study of Nabeul beach, it turned out that it is a beach bordered by the frame. For the northern part of this beach, the few constructions have fixed the coastline and have favored the advancement of the shore. the withdrawal from the shore line is 33.16m between 2010-2018 with an average of 4.14m / year this is necessarily due to the rise of the sea level and the fixing of the dimension line by the solid frame on the sedimentary compartment of the beach. It's a bit embarrassing to see the disappearance of Nabeul beach in its northern part in 20 years. It is therefore time to sensitize the population and the city's stakeholders to take the necessary measures to protect this beach.

For the central part, the shore line has experienced a considerable decline with an average of 4.25m / Years between 2010-2018. Despite this degradation this central part is experiencing fattening near the mouths of the Wadis. The operation of a fattening process in some portions of this central part cannot conceal the gradual decrease in the width of the beach which fell from 79.92m in 2008 to 43.70m in 2018 with an average of 4, 52m / Years.

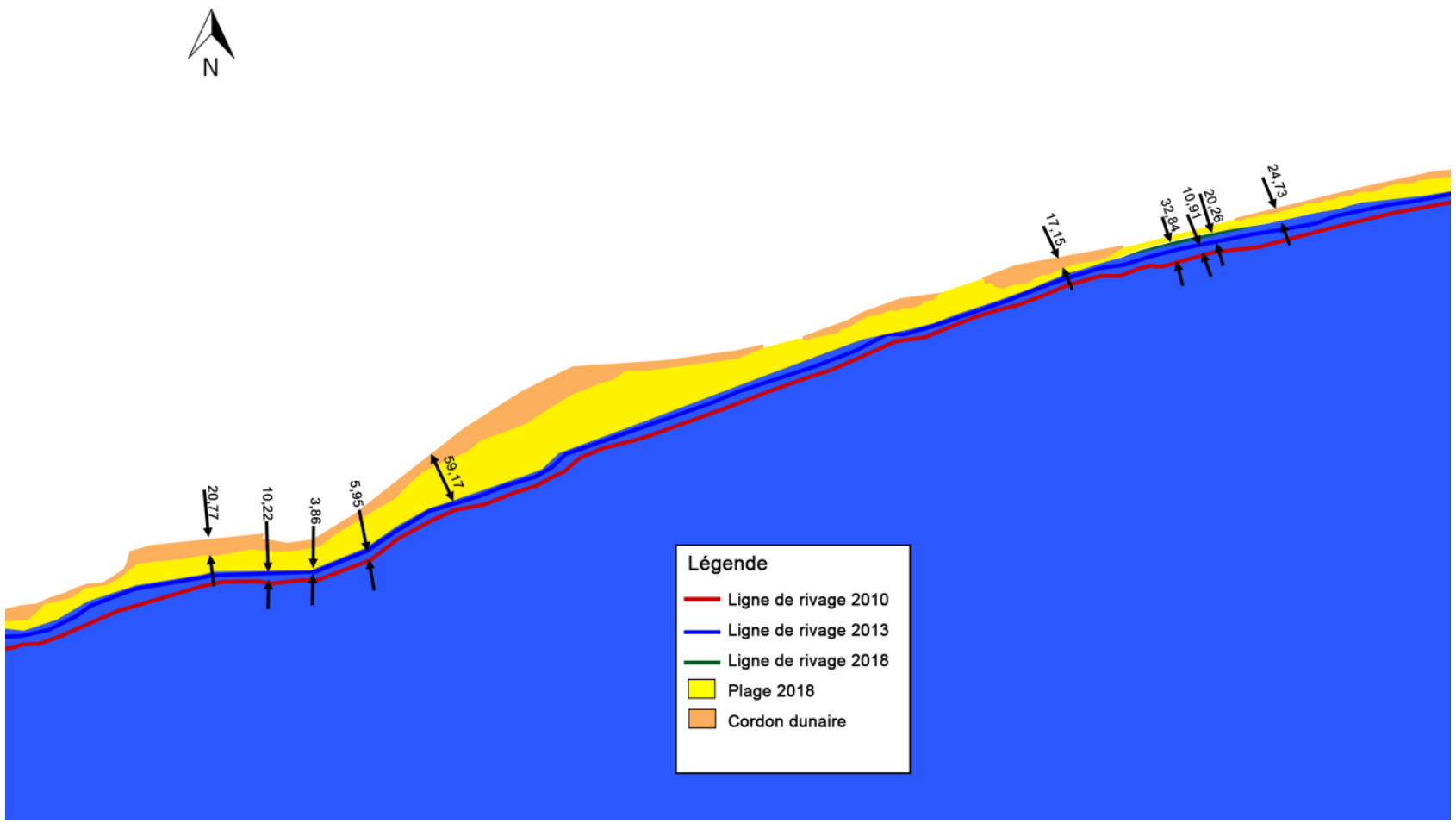
For the southern part, it is characterized by a rate of retreat of the shore line more or less slowed compared to the other zones, the average of the Withdrawal is centimetric and can reach 1.2m / year. Despite this rate of retreat which remains low, the beach has lost a good section of its width except in areas near the mouths of the Wadis.

Carte n° 1 : évolution de la largeur de la plage à Nabeul



Source :cartographie Hagui A., 2020

Carte n° 2 : Le rétrécissement de la ligne de rivage à Nabeul entre 2004 et 2018



Source :cartographie Hagui A., 2020

II- Demographic hyper-concentration and conflicts of interest

In order to understand the socio-demographic specifics of the study area, targeted by the current component, it is a question of fully studying the demographic characteristics of the municipality of Nabeul. In this way, it will be appropriate to study, in the first place, the evolution of the population at different scales in order to grasp the trends of the population evolution and to draw future forecasts of the growth of the population. Secondly, our approach remains linked to the study of human pressure on the beach and this through the analysis of the evolution of the number of summer visitors, and by a logical combination between the evolution of the population of Nabeul and the evolution of the number of summer visitors. All this will allow us to identify the density of the population during the summer seasons and to set development guidelines for the occupation of beaches.

1. Evolution of the population

Between 2013 and 2017, the demographic change across the governorate of Nabeul was of the order of 0.88%. This development was characterized by a faster growth than that of the Nabeul delegation. In fact, from 72,370 individuals in 2013, the demographic weight of Nabeul reached 79,846 individuals in 2017 showing an annual growth rate of 0.56%.

Table n° 1: Evolution of the population

	2013	2014	2015	2016	2017	Increase Rate 13/14	Increase Rate 14/15	Increase Rate 15/16	Increase Rate 16/17	Increase Rate 13/17
Nabeul delegation	72370	73128	74943	78336	79846	0.01	0.02	0.04	0.01	0.56
Municipality of Nabeul	60088	70437	72186	75721	79846	0.17	0.02	0.04	0.05	0.75
Nabeul Governorate	523042	535970	549276	564966	837257	0.02	0.02	0.03	0.48	0,88

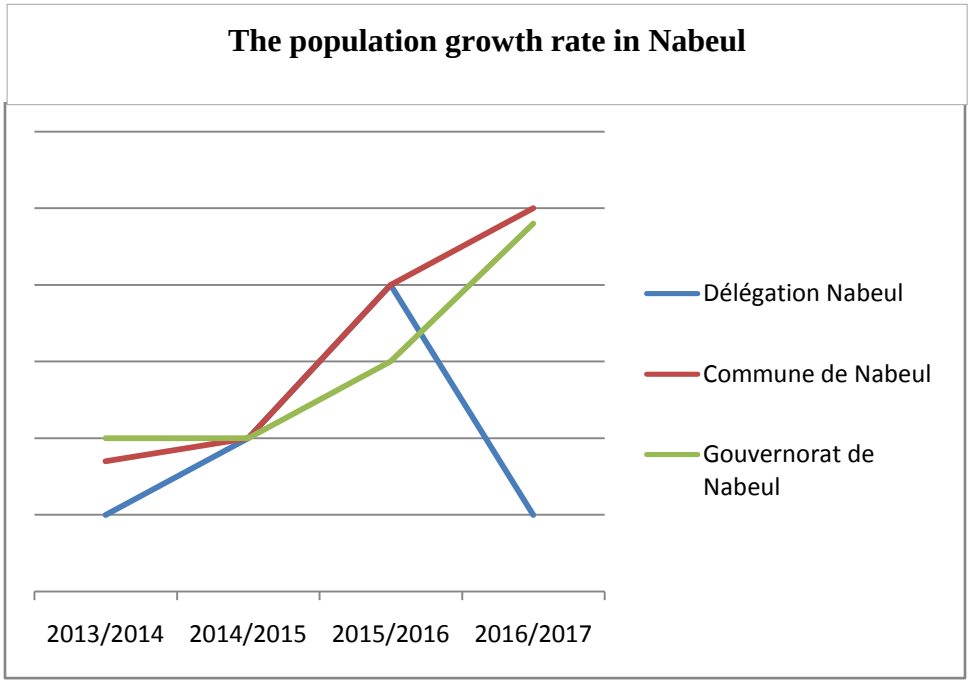
The delegation experienced a remarkable growth rate of 0.02% during 2014/2015 after having been slightly lower than that of the governorate of Nabeul during the years 2013/2014. This can be explained by the attractiveness of the area as it is considered the capital of the governorate.

The rate of increase in the population of the delegation is in permanent decline, after the evolution of 2014/2015 and 2015/2016, to record a stagnation during the years 2016/2017 with an increase rate of l 'order of 0.01%.

For the municipality, its demographic weight was important until the recorded rates greatly exceeded the rates in the Governorate of Nabeul. For the governorate, the rate for the years 2013/2014 was of the order of 0.02% while the commune recorded a rate of 0.17%. For the years 2015/2016 the rate of the

commune which was 0.04% exceeded that of the governorate which was 0.03%.

The importance of the demographic growth of the municipality of Nabeul only proves its attractive weight which was exerted not only on the rest of the delegation but also on the whole territory of the Governorate and even on the rest of the country. The territory of the municipality can then be a territory which experiences conflicts of different temporality between the actors to acquire the most profitable places. The beach demonstrates the territory of the municipality and therefore requires interventions and precautionary measures to organize it and sets it apart from any type of mass destruction.



2. Evolution of the number of summer visitors

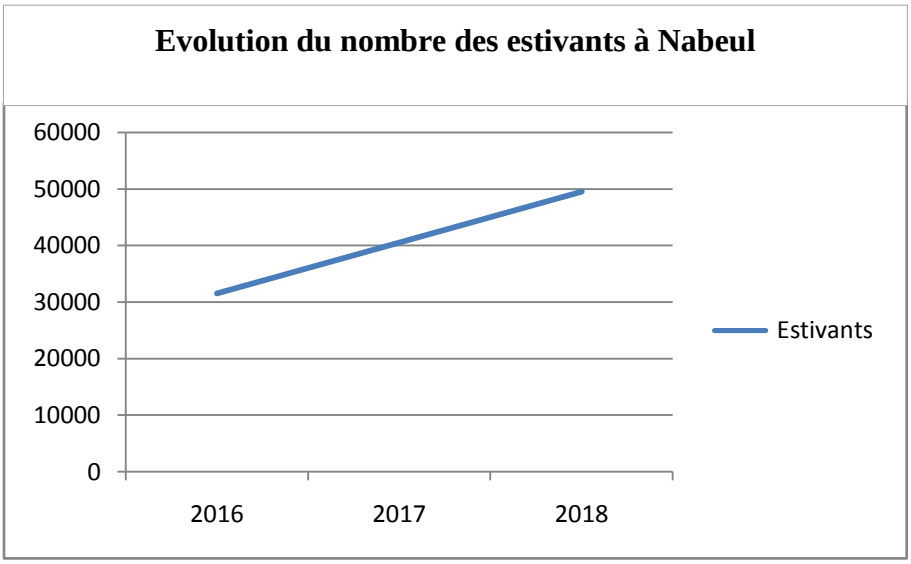
Between 2016 and 2018 the rate of increase of summer visitors in the municipality of Nabeul increased from 0.28% to 0.57% against a decrease during the years 2017 to record an increase rate of 0.22%. This variation is certainly explained by the attraction of the area, which turned out to be important.

Table n° 2: Evolution of the number of summer visitors in the municipality of Nabeul

Nabeul	2016	2017	2018	Increase Rate 16/17	Increase Rate 17/18	Increase Rate 16/18
Populations/delegation	78336	79846	-	0.01	-	-
Populations / commune	75721	79846	-	0.05		
Summer visitors	31500	40500	49500	0.28	0.22	0.57

The evolution of the number of summer visitors was more remarkable in Nabeul than the evolution of the population. While the population of the delegation recorded a growth rate of 0.01 %, summer visitors recorded a higher rate of around 0.28 %. For the municipality, its strategic position and administrative power give it a remarkable growth rate between 2016/2017 of around 0.05 %.

The rate of increase of summer visitors does not keep pace with that of the population. For the population and with the exception of the period of 2015/2016 when the rate recorded a remarkable drop for the delegation, the rate of increase has changed from 2017. On the other hand, the number of summer visitors decreased from the rate recorded between 2016 and 2017. It fell from 0.28 % to 0.22 %. Despite this decrease in the rate of increase, the number of summer visitors increased in 2018 from 40,500 to 49,500 summer visitors.



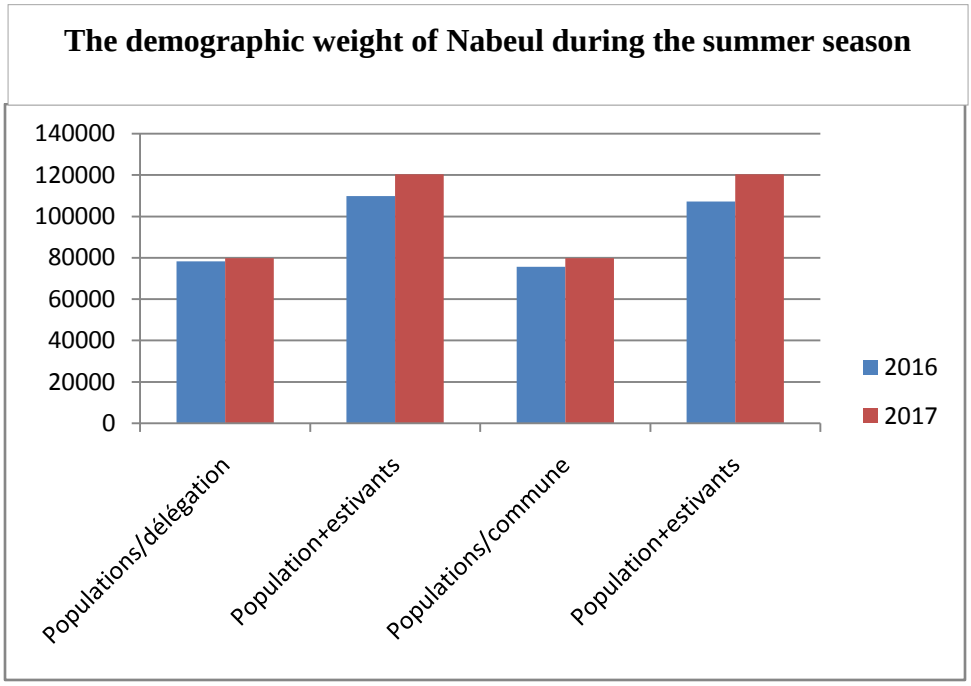
3. Population density during the summer season

The crossing of the population of the municipality of Nabeul in relation to the evolution of the number of summer visitors will allow us to know the human pressure not only on the beach but also on the whole city.

Table n° 3 : The population of Nabeul during the summer season

Nabeul	2016	2017	Increase Rate
			16/17
Populations/delegation	78336	79846	0.01
Population+summer visitors	109836	120346	0.09
Populations/commune	75721	79846	0.05
Population+ summer visitors	107221	120346	0.12

The population growth rate experienced during the years 2016/2017 a low rate which was of the order of 0.01% for the delegation. The town has retained its overwhelming weight from a human concentration point of view with a rate of 0.05%. With the influx of a large number of summer visitors, the rate of increase, if we associate summer visitors with the population, becomes important because the population of the delegation has increased from 78,336 to 109,836 in 2016 and from 79,846 to 120,346 in 2017 showing an annual growth rate of 0.09%. For the municipality, the population increased from 75 721 to 107 221 in 2016 and from 79 846 to 120 346. This development, which is due to the number of summer visitors, was accompanied by an increase in the rate of increase which went from 0.09% to 0.12 % for the period 2016/2017.



III- Negotiation of the development

After the failure of attempts to organize the Nabeul coastline, it was therefore obvious to put in place a new legal framework for coastal planning. The adoption of a new beach occupancy plan (POP) was an obligatory condition not only to organize human concentration on this fragile fringe of space, but also to protect this space which was most often subjected to a wild erosion. Law 1847 relating to the organization of coastal exploitation thus allows the development of a POP to ensure sustainable development, supposed to take into account provisions relating to coastal management. The main obstacle resulting from the nature of the occupation has fueled the debate on the issue of stakeholders so that the coastal law presents the Coastal Protection and Planning Agency (APAL) as the main stakeholder in charge of the organization and protection of the coast, and the new law on local communities has given new prerogatives to the municipality to intervene in areas forming part of the public maritime domain.

This situation has attracted enormous criticism and necessitated a negotiated development of this coastal area. The attribution of new responsibilities to municipalities in the area of planning takes place in a context of competition with state services on these issues. This competition is illustrated in particular by the powers granted by municipalities to investors to intervene on the beach even before the APAL agreement and the development of the POP.

What is interesting to say is that the local administration, however, does not have

the competence to make such a decision regarding the occupation of the beaches. This situation thus evokes an administrative divide between two clans. The first presented by local authorities which provided for the optimal exploitation of its administrative territory, including the coast, to ensure maximum profitability which can be used to develop the entire region, the second presented by the State services, APAL, which insisted on the need to protect fragile spaces.

The conflicts between the interest of preserving the environment and the economic interest linked to the occupation of beaches by economic activities therefore constitute a challenge for the development of a territorial planning approach governed by a development negotiated between the various stakeholders.

These governance issues can only be truly realized after defining the needs and capacities of the coast to host activities. The geomorphological study of Nabeul beach allowed us to identify areas subject to coastal erosion and areas in permanent equilibrium. On the other hand, the definition of the needs of the area puts us face to face with a need to conduct a socio-spatial-economic survey.

The socio-spatial-economic, environmental and political analysis of beach occupancy places us face to face with a need to adopt a purely scientific approach to achieve such a sort of rational and equitable occupation under the eyes of the various stakeholders (actors public, associations, citizens). In fact, with the delimitation of the geomorphological and environmental framework of each spatial portion put to the test of the beach occupation plan, our reflections turned towards a need to work on two types of surveys in order to involve the different stakeholders as much as possible. First, we drew up a questionnaire of 121 questions directly related to the occupation and spread over five dimensions (social, spatial, economic, environmental and political). The objective was then in a desire to identify from a quantitative point of view the degree of impact of each dimension on the occupation of beaches.

For this quantitative survey, we performed data analysis by the PCA principal component analysis method. This can only be done by releasing the reliability analysis through cronbach's alpha and exploratory factor analysis through the KMO index, the total variance explained and the quality of representation. PCA therefore makes it possible to reduce the number of items and make the information less redundant.

Once the PCA is complete, the next step is based primarily on structural equation methods. It is a step made up of two elements, namely a structural model and a measurement model. The structural model also displays the relationships (paths) between the constructs. Measurement models that show the relationships between dimensions and occupancy. In our work, we presented the measurement model which is

divided into two parts namely: convergent validity and discriminant validity.

We have thus presented the convergent validity through first: the reliability of the internal consistency which should be greater than 0.70 (in exploratory research, a value of 0.60 to 0.70 is considered acceptable). Secondly through the reliability of the indicator: the external loads of the indicator must be greater than 0.70. Elimination of indicators with external loads between 0.40 and 0.70 should only be considered if the deletion results in an increase in composite reliability and AVE above the suggested threshold value. And thirdly through convergent validity: the AVE should be greater than 0.50.

Secondly, we presented the discriminant validity while deducing the cross-loads and the Fornell-Larcker criterion. Indeed, the external load of an indicator on the associated construction must be greater than all its cross loads (i.e. its correlation) on the other constructions. As for the Fornell-Larcker Criterion, it measures the discriminant validity by comparing the square root of the mean variance of each extracted construction to its correlations with all the other constructions of the model.

Arriving at this point, we can therefore say that after the measurement model, we move on to the structure model to test the causal links between dimensions and occupancy. The hypothesis test will allow us to identify the dimensions that have a direct relationship with the occupation of the beaches. To carry out our analysis of the occupation, our work consists of basing the analysis with consultation workshops on the arrangements proposed for each municipality in order to finalize the work on the occupation. In fact, consultation workshops is a participatory technique that involves discussing the existing state of beaches and their immediate environments. They aim to supplement, on the one hand, the information collected within the framework of quantitative surveys, and on the other hand geomorphological studies, with the aim of proposing actions to be planned in the development variants. It is a question of bringing together all the actors involved in the occupation and management of beaches (APAL, municipalities, civil societies, seasonal users of the private sector, civil protection, etc.) to discuss and coordinate on the future. of their occupation and protection.

Mind maps, as a technique for recording observations and suggestions, were used to facilitate the spatial expression of representations and perceptions of actors. The results of these techniques served as interesting materials for the sketch of the first variants of occupation of the beaches, object of the study.

In what follows, we have presented the results of the measurement models (convergent validity) of the selected dimensions.

Result of the measurement model - convergent validity: social dimension					
variable	**Items**	**Externalload**	**Cronbach's alpha**	**AVE**	**CR (composite reliability)**
Perceived	Oc_so_vie2	0,856	0,938	0,728	0,949
	Oc_so_vie3	0,820			
	Oc_so_vie4	0,779			
	Oc_so_vie6	0,883			
	Oc_so_vie7	0,872			
	Oc_so_vie1	0,877			
	Oc_so_vie8	0,882			
lived	Oc_so_vécu1	1,000	1,000	1,000	1,000

Result of the measurement model - convergent validity: Political dimension					
variable	**Items**	**Externalload**	**Cronbach's alpha**	**AVE**	**CR (composite reliability)**
occupation	Oc_politi1	0,871	0,846	0,764	0,907
	Oc_politi2	0,869			
	Oc_politi3	0,882			

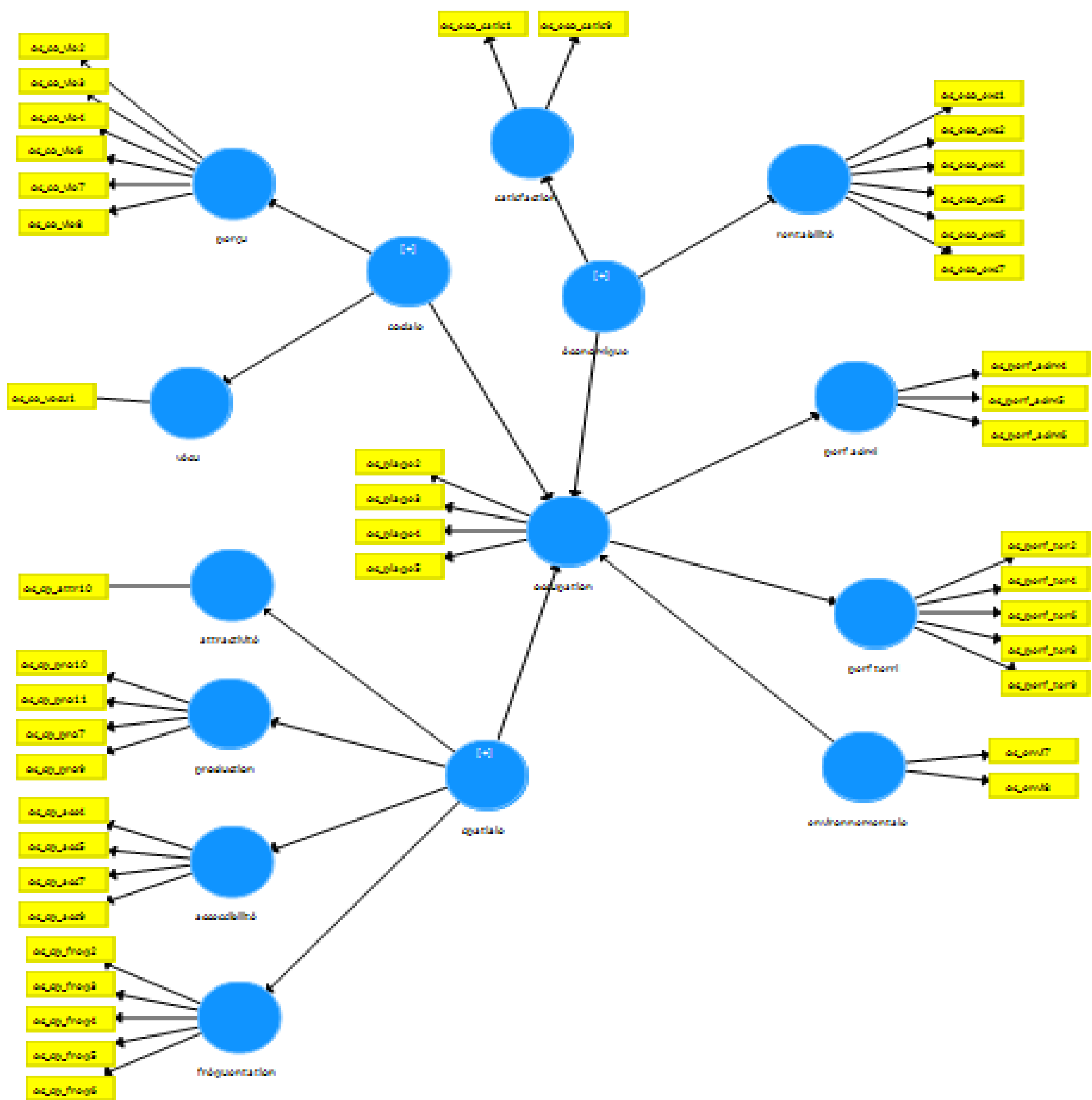
Résultat du modèle de mesure- validité convergente : Dimension spatiale					
variable	**Items**	**Externalload**	**Cronbach's alpha**	**AVE**	**CR (composite reliability)**
Attractiveness	Oc_sp_attr1	0,849	0,899	0,714	0,926
	Oc_sp_attr11	0,822			
	Oc_sp_attr4	0,910			
	Oc_sp_attr7	0,825			
	Oc_sp_attr8	0,816			
Production	Oc_sp_pro10	0,840	0,939	0,732	0,950
	Oc_sp_pro3	0,858			
	Oc_sp_pro4	0,886			
	Oc_sp_pro5	0,879			
	Oc_sp_pro7	0,771			
	Oc_sp_pro8	0,865			
	Oc_sp_pro9	0,883			
Accessibility	Oc_sp_acc11	0,703	0,940	0,677	0,949
	Oc_sp_acc12	0,844			
	Oc_sp_acc2	0,855			
	Oc_sp_acc3	0,757			
	Oc_sp_acc5	0,875			
	Oc_sp_acc6	0,860			
	Oc_sp_acc7	0,836			
	Oc_sp_acc8	0,880			
	Oc_sp_acc9	0,777			
Attendance	Oc_sp_freq1	0,805	0,894	0,704	0,922
	Oc_sp_freq2	0,901			
	Oc_sp_freq3	0,849			
	Oc_sp_freq4	0,879			
	Oc_sp_freq6	0,754			

Result of the measurement model - convergent validity: Environmental dimension					
variable	**Items**	**Externalload**	**Cronbach's alpha**	**AVE**	**CR (composite reliability)**
environnemental	Oc_envi1	0,874	0,952	0,748	0,960
	Oc_envi10	0,898			
	Oc_envi2	0,872			
	Oc_envi3	0,819			
	Oc_envi4	0,811			
	Oc_envi6	0,875			
	Oc_envi7	0,887			
	Oc_envi8	0,878			

Résultat du modèle de mesure- validité convergente : Dimension économique					
variable	**Items**	**Externalload**	**Cronbach's alpha**	**AVE**	**CR (composite reliability)**
Need	Oc_satis1	0,915	0,900	0,772	0,931
	Oc_satis5	0,810			
	Oc_satis6	0,906			
	Oc_satis7	0,879			

Résultat du modèle de mesure- validité convergente : Dimension occupation					
variable	**Items**	**Externalload**	**Cronbach's alpha**	**AVE**	**CR (composite reliability)**
occupation	Oc_plage2	0,891	0,897	0,710	0,924
	Oc_plage3	0,890			
	Oc_plage4	0,808			
	Oc_plage5	0,770			
	Oc_plage6	0,846			

The conceptual model of beach occupation in Nabeul



Arriving at this stage, all that remains is to proceed with the structural model analysis of the various dimensions in relation to the occupation of the beaches and this for the sole purpose of testing the hypotheses and seeing the dimensions that will be retained for the 'development of beach occupancy scenarios. The dimensions (assumptions) used are those with a p-value less than 0.005.

Hypotheses	Relation	Initial sample	Standard deviation	T-value	p-value	Decision
Occupation/territorial performance Occupation/territorial performance		We rejected them from the start				
1-	Politics / Occupation	0,073	0,071	1,033	0,302	rejected
2-	Social/occupation	0,428	0,352	1,215	0,225	rejected
3	Space/ occupation	-0,439	0,393	1,117	0,264	rejected
4	Environnemental/ occupation	0,923	0,036	25,654	0,000	accepted
5	economic/ occupation	-0,048	0,134	0,358	0,721	rejected

For Nabeul, the ever-increasing degradation of the beach and the massive destruction of the dunes by the development actions of the owners of the buildings with the rising sea water only made the classification of the Nabeul beach among the areas protection priorities that require the consideration of emergency measures.

The result resulting from the geomorphological assessment with the results of the survey, which advances the environmental dimension as a basic component of the occupation with a p-value of 0.000, demonstrate the awareness of the various stakeholders of the critical situation of the beach and obliges us to mention the necessary measures at the level of the layout variants. On the other hand, the occupation of Nabeul beach must take into account the large volume of summer visitors, which had an increase rate of 0.57% between 2016/2018.

Generally, the association of the environmental dimension with the occupation in Nabeul has shown great importance in defining the occupation of the beach. In fact, the environmental component appeared not only in the work of the field investigations but also in the analysis of the responses of the people surveyed since the respondents never ceased to prove their fear vis-à-vis the pollution of the beach. Whatever due to an increased lack of tools or spills carried out from well-determined establishments. Taking the environmental dimension into account in the development of the POP can be beneficial in creating a climate of sustainable development by supporting the sustainability of the beach ecosystem.

With this quantitative analysis of the needs of the area in order to build a rational development of the coast of Nabeul, we must therefore study the needs in a qualitative manner and this through consultation workshops. In fact, we are talking about a participatory technique that involves discussing the existing state of beaches and their immediate surroundings. They aim to supplement, on the one hand, the information collected within the framework of quantitative surveys, and on the other hand geomorphological studies, with the aim of proposing actions to be planned in the development variants. It is a question of bringing together all the actors involved in the occupation and management of beaches (APAL, municipalities, civil societies, seasonal users of the private sector, civil protection, etc.) to discuss and coordinate on the future. of their occupation and protection.

Mind maps, as a technique for recording observations and suggestions, were used to facilitate the spatial expression of representations and perceptions of actors. The results of these techniques served as interesting materials for the sketch of the first variants of occupation of the beaches, object of the study.

Over a distance of 5000m, the study area consists of several spatial entities that characterize the background of the beach ranging from the Aquaris hotel to the Indiana hotel. This sensitive site is marked by the presence of archaeological zones and four wadis. This succession of units is associated with the residential areas (SidiMahrsi 1 and 2, Memosa), the entertainment area and the hotels. It is at the Indiana Hotel that the beach is privatized. Cafes and restaurants are limited. However, the presence of nautical bases is remarkable but at reasonable distances.

The main facilities proposed concern:

- ✓ The opening of access
- ✓ The development of a floating restaurant in the SidiMahrsi 2 district and demolition of the existing café;

Safeguarding the sensitive area located in the archaeological area

Planning by adjustments of interests only means the will to put the spatial planning projects structured in advance, and to base the spatial analysis on the play of political interactions (Négrier, 1998) and the relative divergent interests. To uses. Once the new elements of coastal development relating to the consultation workshops have been established, the next step is to translate the "wanted" into the "real" while respecting the geomorphological and demographic characteristics. It is here that Lascoumes (1990, p. 54) has shown that "observable actions are as much the product of created situations as pre-existing frameworks".

Map n ° 3: the Nabeul coastal development model through the systemic approach

Conclusion

In Tunisia, coastal development for the realization of urban projects in fragile areas is justified by a desire to promote coastal towns to the rank of large Mediterranean towns. In fact, the draining of a large volume of investments from the outside world is a good illustration of the success of the commercialization of the desired image produced in its sensitive spaces. At the same time, the sudden concentration of projects on wetlands will surely reinforce the natural risks linked to flooding and erosion (Pottier, 1998; Meur-Férec et al., 2004; Morhange et al., 2007; Maret et al. ., 2008; Vinet, 2010; Chauveau et al., 2011; Douvinet et al., 2011; Mercier, 2012; Duvat et al., 2012; Moulin et al., 2013).

Development would come here to meet only land and financial needs defined as inevitable. It is true that globalization and the development of tools and experiences in the field of land-use planning have made it possible, at the level of developed countries, to overcome the conflict between risk management and construction in flood-prone areas. the introduction of a new concept namely resilience. Sylvain Dournel et al (2015) have already mentioned the importance of resilience in the action of planning in flood-prone areas. They noted that this concept is intended to "qualify a gross use of defense works and absorption of the disturbance effects associated with flooding".

The situation of the Tunisian coast is much more complicated compared to other areas. In addition to its attractive power which was exercised throughout the national territory, the beach has continued to experience a conflict of use between various actors. From the municipality which is trying to get its hands on this fragile space, to the Coastal Protection and Planning Agency (APAL) which presents itself as the main actor who manages this space and categorically refuses the intervention of others actors. All this through the intervention of the local population by some illegal constructions. This situation has fueled conflicting tensions within the Tunisian administration itself (Hagui A., 2012) between an environmental clan that foresaw the need to protect ecosystems because any anthropogenic modification causes extreme destruction of biodiversity and trivialization of landscapes. And another clan is with the idea of developing the beaches as this modification can positively influence the national economy.

After the 2011 revolution, wetland development projects faced multiple conflicts of use. These are strategically positioned areas where conflicts of use are multiple (Bruckmeier, 2005) and where the state has found itself overwhelmed by popular social tensions which seek to apprehend space according to their own needs. The experience already drawn from the brutal transformation of several repellent spaces to others of enormous multifunctionality with the development of new uses, feeds this type of conflict of use.

Originally, the entire coast of Nabeul remained faced with a need to remedy existing situations and find a spatial organization of existing uses, thus making it possible to protect the environment through a balanced distribution of human activities. In view of the administrative difficulties in collecting information by the main actor of coastal areas in Tunisia (APAL), and the need to adopt regulatory procedures allowing the application of the law and the protection of the environment, development of the coast then finds its raison d'être. It is a development that comes to build an entire space endowed with great physical (cliffs, marshland etc.) and human (land use, activities, etc.) diversity.

The socio-spatial-economic, environmental and political analysis of beach development places us face to face with a need to adopt a purely scientific approach to achieve such a sort of rational and fair occupation under the eyes of the various stakeholders (actors public, associations, citizens). In fact, with the delimitation of the geomorphological and environmental framework of each spatial portion put to the test of the beach occupancy plan, our reflections turned towards a need to work on two types of surveys in order to involve the different stakeholders as much as possible. First, we drew up a questionnaire of 121 questions directly related to the occupation and spread over five dimensions (social, spatial, economic, environmental and political). The objective was then in a desire to identify from a quantitative point of view the degree of impact of each dimension on the occupation of beaches.

During the 2000s, the content, practices and uses of beach occupancy evolved significantly. Focused on spatial issues in the 1990s, from the 2000s onwards, the procedures showed the ambition to coordinate different actors within extended perimeters. However, local dynamics are characterized by important differences in the games of interests and institutional logics. The analysis of the ambitions of the various actors clearly shows a tendency to rethink the links between the city and its beach.

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