Migration into the coastal zone of Benin: ecological consequences and social realities

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Outline

- 1. Introduction
- 2. Research questions
- 3. Methodological approach
- 4. Main Results
- 5. Conclusion

1. Introduction

- Even though taking up only 8% of the land surface (Turner et al. 1996), over 60% of mankind live there (UNESCO 1993, Cicin-Sain and Knecht 1998, Glaeser 2000, Strasser 2005).
- Coastal areas accommodate more than two thirds of all megacities worldwide, i.e. cities with more than 10 Million inhabitants (UNESCO 1993, Scialabba 1998).
- At the same time, in-migration to the coastal areas continues to increase and implicates high growth of coastal population.
- Besides, migrants claim and consume goods and services, the growth of coastal population impacts already the environment (Marquette and Bilsborrow 1999; Panavotou 2000).

1. Introduction

- Assessment of migrant impacts : Relevant (knowledge of the demography of migrants regarding their age, gender, and marital status and the diversity of the causes and motives of migration).
- The lack of such data in Benin
- Difficulty of ecological footprint of migrants on the environment analysis
- Despite its relevance for the sustainable planning use of coastal natural resources.

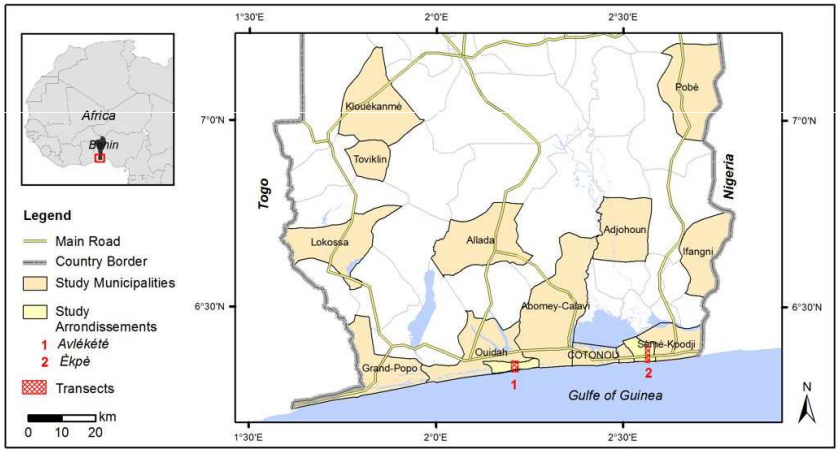
2. Research questions

Questions:

- Who are the moving people into the coastal area of Benin?
- Why do they move into the coastal area?
- Do migrants reach their migration objectives or do not be satisfactory from their migration decision?
- What are the impacts of migrants on the natural resources in the coastal zone?
- What are the social realities in the destination?

3. Methodology

Investigation area and Transects



❑The average density of population is about 249.1 inhabit./km2

❑Cotonou, Porto-Novo, Abomey-Calavi and Ouidah form the central hubs regarding population and economic activity

❑The biggest ethnic group Adja and Fon. Related ethnic groups: Houeda, Xlâ, Toffinou, Wéménou and Gun are predominant.

3. Methodology

- combination of quantitative and qualitative data collection.
- Quantitative data collection : structured interviews (262 women and 405 men)
- Qualitative data collection : semi-structured interviews, observations and documentation (32 notables and local authorities of the coastal Districts).
- For the analysis of the socio-economic and demographic data, the respondent groups were distinguished according to ethnicity, gender, age (young adults ($i \leq 30$ years); adults ($30 < i \leq 60$ years) and elderly persons ($i \geq 60$ years)) as well as the location of their residence (rural or urban zone).
- An Analysis of Variance (ANOVA) was applied in order to describe the relation between patterns of reason for migration, the risk perception, and the different local population groups.

3. Methodology

Remote sensing analysis was done in the above mentioned two areas within the greater study area (Fig. 1). In order to conduct multi-temporal analysis, a time series of very high resolution remote sensing data was needed. For one date, QuickBird data was available.

Available Data	Arrondissement Èkpè	Arrondissement Avlékété	Spatial resolution (on ground)	Spectral resolution
Aerial photography (1:30,000)	03/09/1995	03/09/1995	~0.35 m	PAN
QuickBird image	12/23/2002	11/07/2006	2.4 m// 0.6 m	NIR,R,G,B //PAN
Scanned aerial photography (1:20,000)	03/25/2007	03/25/2007	~0.85 and 1.25 m	R,G,B

3. Methodology

Obtained classes from two above mentioned transects:

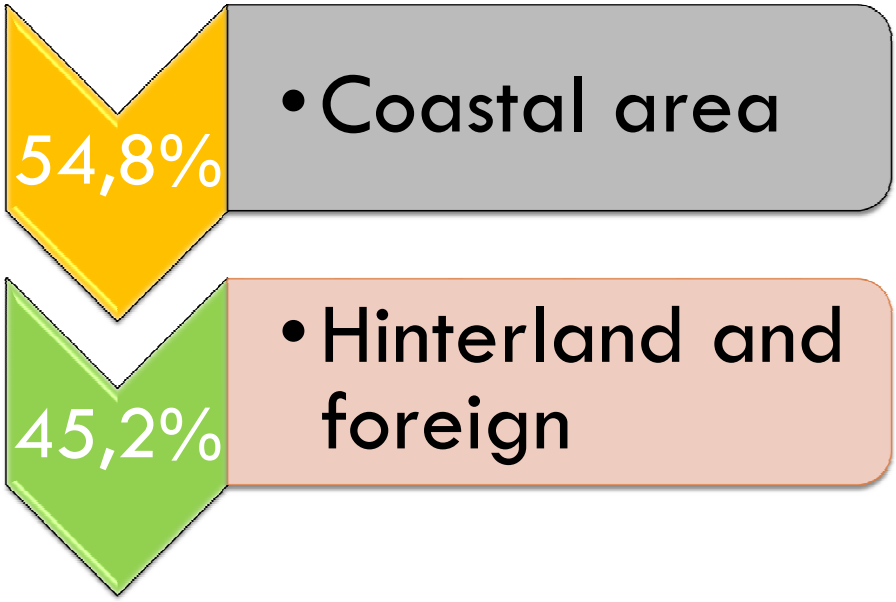
(i) houses for settlement changes as a relevant visual indicator of migration;

(ii) the extension of fields to study spatial agricultural changes

(iii) Natural resources degradation

4. Main results

- Origin of migrants :



4. Main results

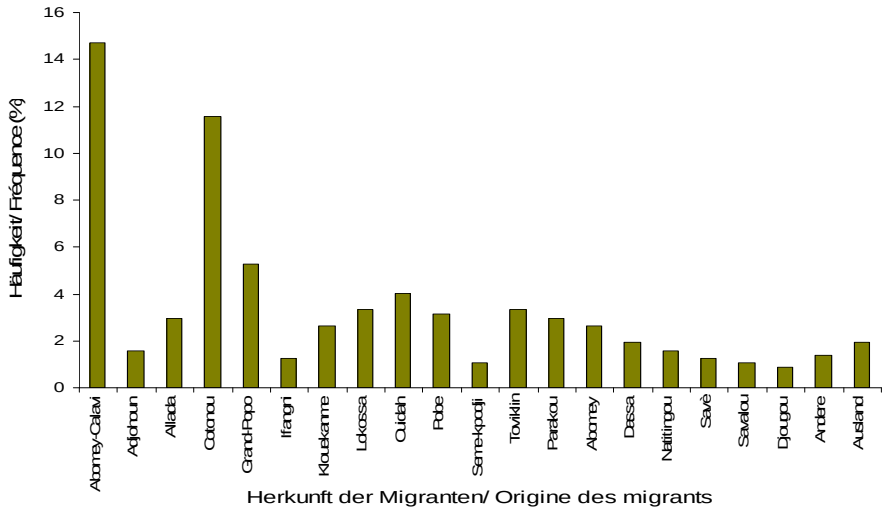
- **Origin of migrants :**

Origin	Men		Women		Total respondents	
	N	%	N	%	N	%
Coastal area	138	42.6	109	48.9	247	54.8
Hinterland or foreign countries	186	57.4	114	51.1	300	45.2
Total	324	100	223	100	547	100

With 57.4% of external migration, the proportion of the male migration was higher than of the female migration which was around 42.6%. Altogether 9% of male working population reported go to Nigeria, Ivory Coast, Gabon, Congo, Lomé and Cameroun for the economic migration.

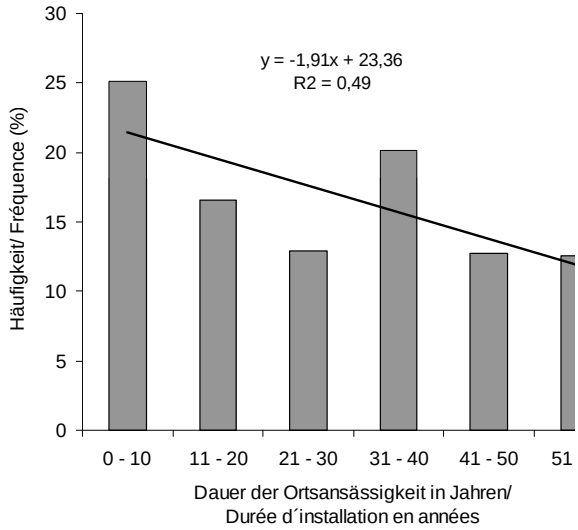
4. Main results

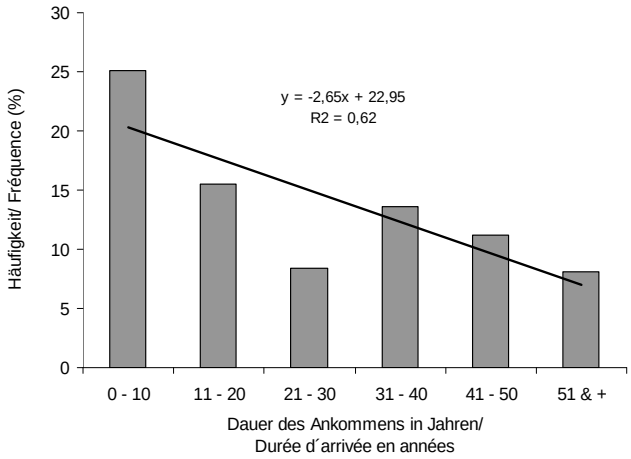
- **Origin of migrants :**



4. Main results

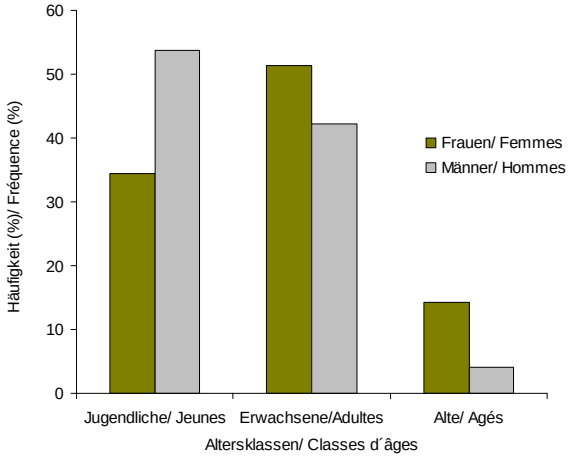
Installation trend:





4. Main results

Sociodemographical characteristics of migrants:



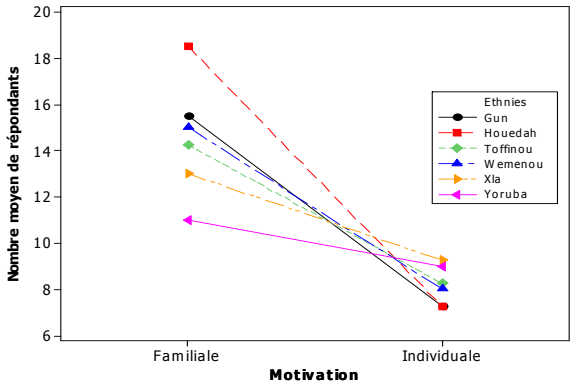
4. Main results

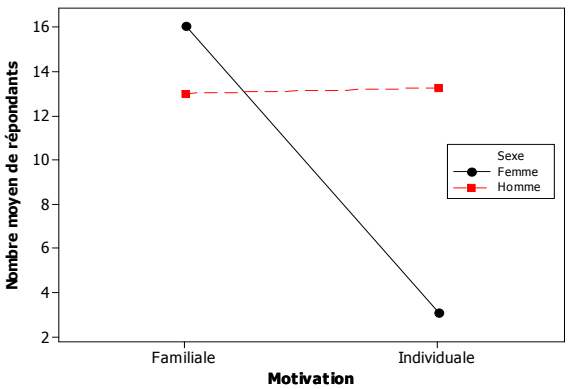
Migration motives:

Raisons	Hommes		Femmes		Total	
	N	(%)	N	(%)	N	(%)
Travail ou étude	165	55	31	12,6	196	35,8
Familial	58	19,3	92	37,2	150	27,4
Rapprochement de conjoints	29	9,7	88	35,6	117	21,4
Fuite du lieu d´origine et/ou rapatriement	20	6,7	14	5,7	34	6,2
Pas de raison	28	9,3	22	8,9	50	9,1
Total	300	100	247	100	547	100

4. Main results

Migration motives:





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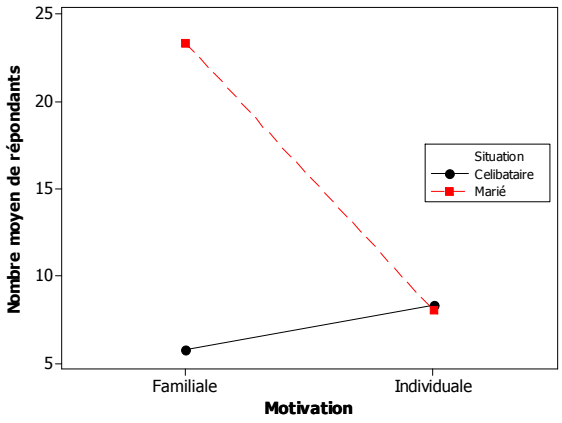

4. Main results

- **Migration motives:**

Source	DF	Type III SS	Mean squa.	F value	Pr>F
Ethnicity	5	0,31	0,06	0,31	0,90
Gender	**1**	**4,96**	**4,96**	**25,35**	**<0,00**
Marital status	1	4,33	4,33	22,15	0,00
Ethnicity*Motivation	5	0,81	0,16	0,84	0,54
Marital.*Motivation	**1**	**5,60**	**5,60**	**28,59**	**<0,00**
Ge.*Motivation	**1**	**7,63**	**7,63**	**39,01**	**<0,00**
Ethn.*Ge.*Motivation	10	1,36	0,136	0,70	0,72
Ge.*Marital.*Motivation	2	0,04	0,02	0,10	0,91

4. Main results

Ecological consequences of migration into the coastal area of Benin

Two forms of settlement change can be detected:

➢Expansion and Spread: The bordering line moves between 1995 and 2007. This expansion shows several trends:

movement outward from existing settlements,
spread along roads and paths,
the development new settlements or spread dwellings.

➢Densification: Settlements become denser, with their central areas as densest parts.

	1995	2007	Increase
Avlékété	562	893	159 %
Èkpè	380	1614	425 %

4. Main results

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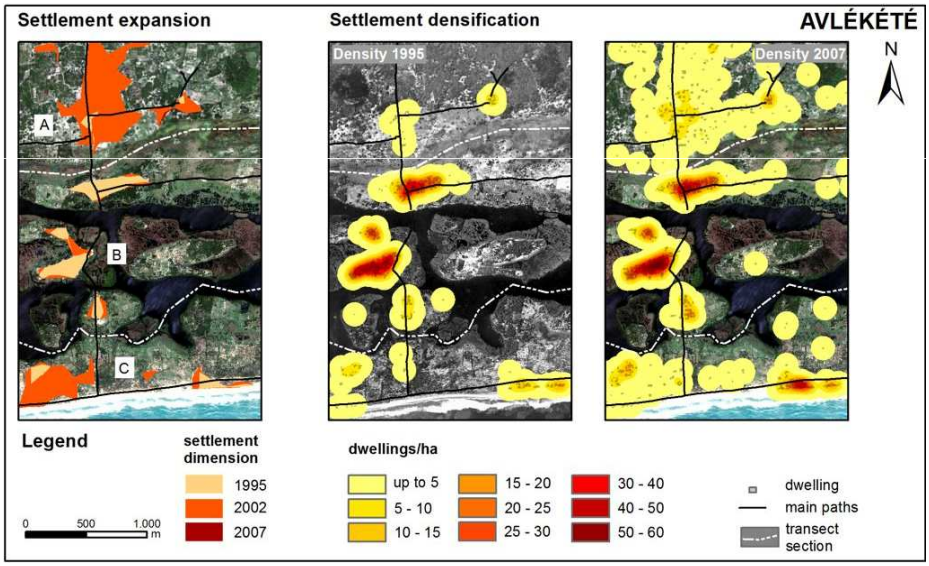

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- **Ecological consequences of migration into the coastal area of Benin**

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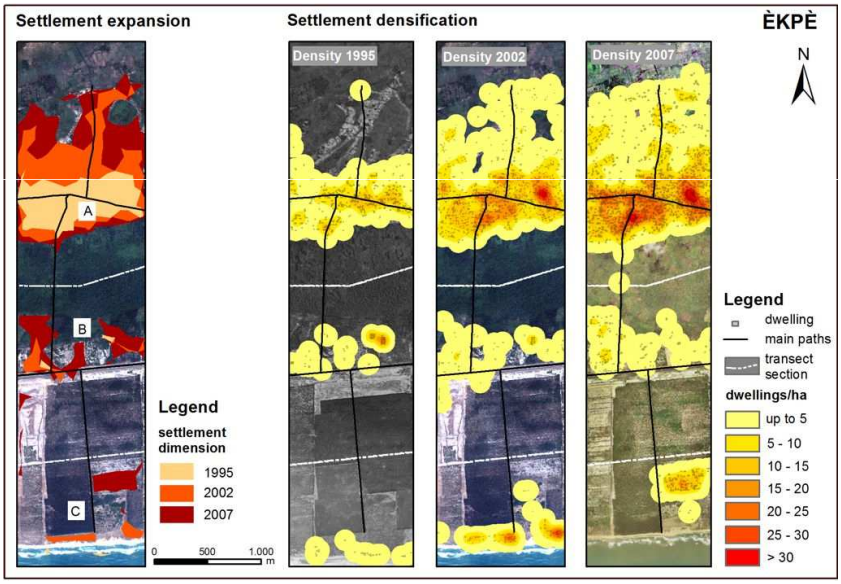

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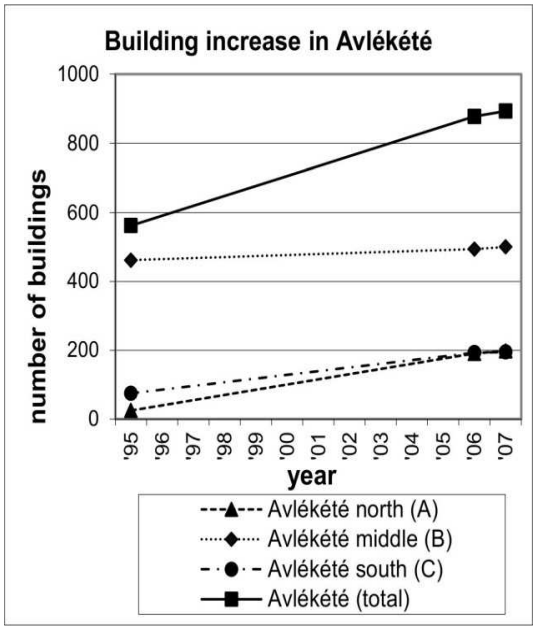

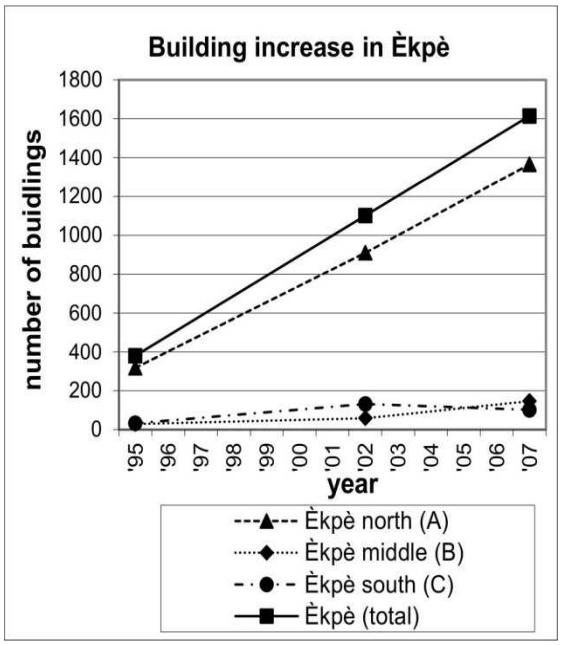

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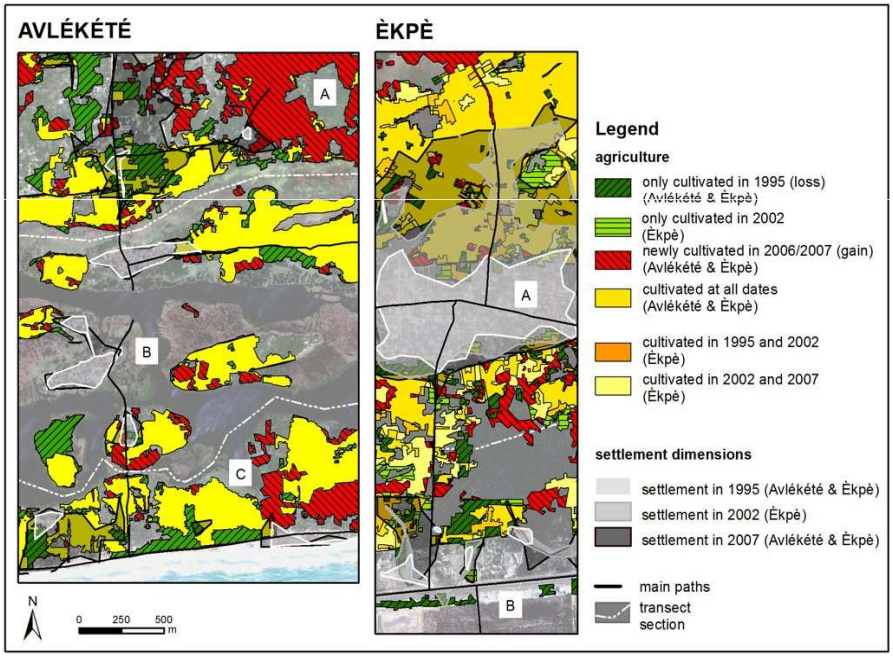

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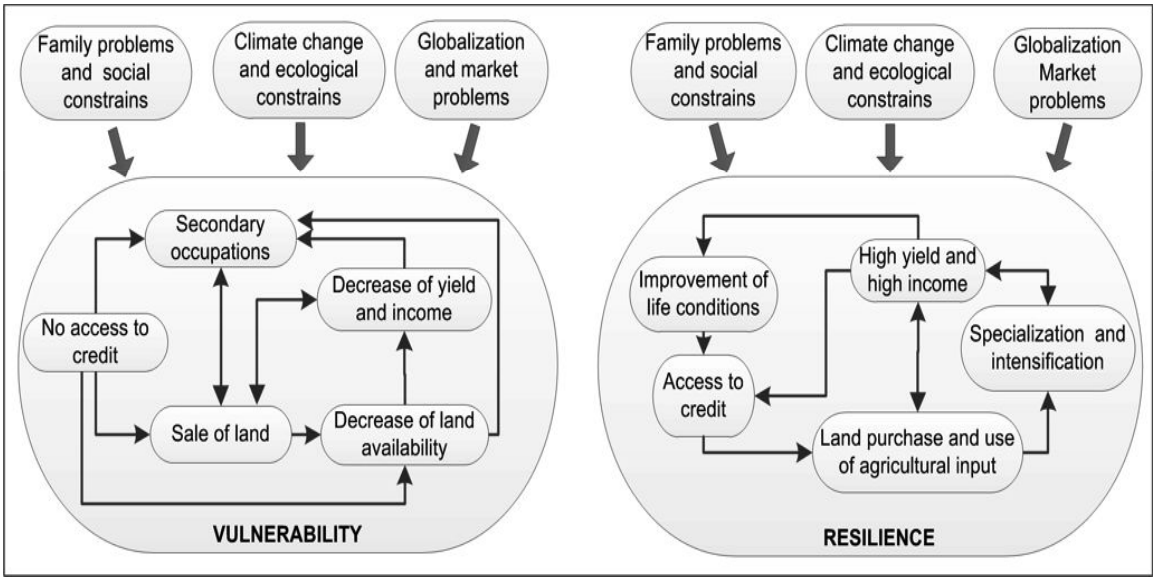

4. Main results

- **Ecological consequences of migration into the coastal area of Benin**

COTONOU (BENIN) Carte IGN 1995 1/50 000

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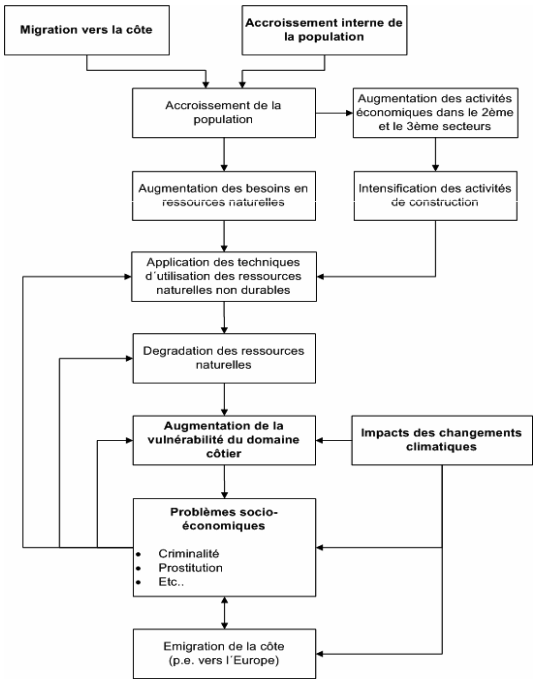
4. Main results

- **Ecological consequences of migration into the coastal area of Benin**

4. Main results

- **Interrelations between migration process, ecological and social**



- **Floods**
- **Water deseases**
- **Waste management problems**
- **Informal Fuel**
- **„Zemidjan“**
- **Prostitution**

5. Conclusion

- Migration into the coastal area : important Issues
- This study provides relevant results about ongoing processes in the coastal area of Benin.
- These results are important for the evaluation of future development as well as for monitoring the coastal zone.
- New planning strategy