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THE RISK CULTURE. CASE STUDY IN PERI-URBAN AREAS*

ABSTRACT

The capacity of rural communities to get involved in crisis management, to perceive the natural vulnerability mechanisms, the modalities to combine the economic and social systems in the perspective of local strategy design depends on their own territorial status. Their location in the peri-urban area determines their involvement into a system of specific influences and social expression possibilities.

The zonal diversity determines the building and consolidation of the *peri-urban* status, into different sociological matrices. The rural dynamics contributes to shaping the collective identity, on one hand, marking the relations between territories (residential, productive); on the other hand, it reveals the way in which the space became productive territory/territories. The peri-urban communities are autonomous forms, with specific spaces and territories, where modernization developed through innovation changes at economic, social and cultural level; we specify that the change is perceived in reciprocal adjustment terms, in the sense that it takes place at all levels and is not characterized by a descending causality. The rural dynamics followed different trajectories, being the complex result of the interactions between: the agricultural restructuring generated by external factors (agriculture rationalization) and internal factors (agricultural modernization); the rural restructuring induced by external factors (social emancipation) and internal factors (rural modernization).

Key words: peri-urban area, risk, risk culture.

JEL Classification: Q54, Z13.

1. INTRODUCTION

The socio-economic study of rural communities, which are facing natural risks, started from the thesis according to which modernization has specific materialization forms in the peri-urban area. (The risk culture is a fundamental aspect of modernity and a way of colonization of the future – Giddens, 1991)¹. Modernity, in these terms is linked to the future-oriented cultural type, in which risks are identified and their management is efficient. *“The risk culture is not reduced only to knowing what the risks are; it implies the adoption of adapted behaviours*

* The results presented were obtained under the project “Taming the post socialist nature: floods, local strategies and national policies in the lower Danube region”, PN-II-ID-PCE-2012-4.0587.

¹ Giddens, A., *Modernity and Self-Identity. Self and Society in the Late Modern Age*, Polity Press, Cambridge, 1991.

throughout the entire life”². The completion of the definition is achieved through memory recognition, considered as a fundamental element, because: “*Memory is a risk culture element that refers to what has happened, it can favour acceptance, adhesion, closeness to the prevention policies. Memory permits the exposed populations to have a preventive attitude (before the crisis) and to adopt adequate behaviours during the crisis*”³. Memory is different because: “*in the time elapsed from the crisis, the memory of the disaster consists of a plurality of memories... a bricolage (Certeau, 1990) of the conciliation of the past disaster reminiscence, the need to forget and identity problems.*”⁴

In the present study, the impact of a natural disaster – flooding is analyzed as a social phenomenon focused on the individual vulnerability and reactions, on the capacity of the communities – the quality of social relations, institutions favourable to adaptation behaviours/strategies, resilience in the face of catastrophic events.

“*The capacity of individuals, of households or of communities and the risk management depend on its characteristics: source, correlation, frequency and intensity*”⁵. In the case of the rural communities with a low rural modernization level and a strong dependence on traditional farming, where subsistence farming prevails, one could notice a certain accumulation of shocks generated by natural disasters, resulting in economic/social fragilization and vulnerabilization. There is a correspondence between the risk increase and the deepening poverty, noticeable in the rural communities affected by flooding.⁶

2. MATERIAL AND METHOD

The method used was a mix of direct observation, interviews with the formal leaders of the communities; the following analyses were made:

- longitudinal analyses – evolutions of the main phenomena and processes in time, specific for the investigated communities, together with primary analyses;
- documentary analyses – inventory of documents referring to the demographic, economic, institutional processes, of the local, county, regional, national strategies referring to natural risks, renaturing phenomena and their analysis according to the fundamental concepts specific to each problem in part; the inventory and analysis of programs and projects implemented by each community or related area;

² AREAS, *Culture du risque inondation. Aspects sociologiques de la culture du risque. Perception du risque et communication*, 2014.

³ Ledoux, B., *La gestion du risque inondation*, Editions Tec& Doc. Lavoisier, Paris, 2006.

⁴ Langumier, J., *Genèse du risque et mémoire de la catastrophe: une approche ethnographique des inondations dans les Basses Plain de l’Aude*, *Révue pour la memoires*, nr. 4/2008.

⁵ Holzmann, R., Yorgensen, S., *Social Risk Management: A New Conceptual Framework for Social Protection, and Beyond, social Protection Discussion paper, nr. 0006, February, World Bank, 2000.*

⁶ Vathana, S., Oum, P., Chervier, C., *Impact of Disasters and Role of Social*, in *Protection in Natural disaster Risk in Cambodia*, in *Economic and Welfare*, Dec. 2012.

– bibliographical analysis – general information on the rural communities, identification of sources, their selection, elaboration of sociological explanations. The sources used were primary sources (non-periodical sources – monographs, scientific reports, PhD theses, periodical sources – specialty journals, local newspapers) and secondary sources (analytical and systematic processing of the obtained bibliographical data).

3. RESULTS AND DISCUSSIONS

From the perspective of the territorial status, the investigated rural communities⁷ are characterized by proximity to the urban areas (Table 1), which involves multiple economic, educational, cultural polarization and excessive dependence on multiple urban services. Out of this reason, *the four rural entities are defined by a causal relation existing between the economic and demographic modernization and the geographical transfers of incomes (wages, pensions, social securities); this type of relation is not based on the production capacity of the area because the urban proximity is not necessarily productive for the rural area.*⁸

Table 1
Territorial status of investigated communities

	Distance to the nearest town	Frequency of road transport lines	Distance to the nearest railway station	Distance to the nearest high-school	Distance to the nearest hospital
Gostinu	18 km Giurgiu	Every 30 minutes	18 km Giurgiu	18 km Giurgiu	18 km Giurgiu
Oinacu	8 km Giurgiu	Every 30 minutes	4 km commune Frătești	8 km Giurgiu	8 km Giurgiu
Bistreț	30 km town Băilești	Every 1 hour	30 km Băilești	30 km Băilești	30 km Băilești
Rast	22 km town Băilești	Every 2 hours	22 km town Băilești	22 km Băilești	22 km Băilești

Source: commune fiches, applied in May-August, 2014.

The location of the communities in peri-urban areas defines them as hybrid socio-economic spaces of the intermediary area between the rural and urban zones; the spatial relations are different, generating specific socio-economic characteristics:

– the distance of the investigated rural area to the town Giurgiu county is quite small – Oinacu at 8 km from Giurgiu Municipality, Gostinu at 18 km from Giurgiu

⁷ The investigated universe is divided into two rural micro-zones: rural micro-zone Giurgiu with the localities Gostinu and Oinacu and rural micro-zone Dolj with the rural localities Bistreț and Rast. In the two zones, at the risk management level, two natural risk phenomena were investigated, with deep implications in the community life: infiltrations and flooding.

⁸ Talandier, M., *L'émergence de systèmes territoriaux-résidenceles*, collection Travaux 19, Editeur Datar, 2014.

Municipality; the distance of the rural area from Dolj county is relatively bigger – Rast at 22 km from the town Băilești, Bistreț at 30 de km from the town Băilești;

– the urban profiles are different: Giurgiu Municipality is an old town, with a population totalling 61,353 inhabitants⁹, multiple functionality (administrative, economic, cultural, social), complex economic structures (agricultural, industrial, commercial, tourism, cultural); the town Băilești has had urban status since 2001, with a population of 17,437 inhabitants¹⁰ and a strong commercial traditionality (focused on the sale of agri-food and agricultural products).

The urban polarization is filtered through the spatial and economic characteristics of the investigated zone, influencing the types of local rural economy, the behaviours (at community and individual level) and the modernization/development strategies.

The territorial status of the rural communities under study is defined by:

– the natural fragilization of the territories occupied by the rural communities; the perception of this vulnerabilization takes place in the flooding paradigm that resulted in erosion phenomena, in the exhaustion of humus reserves in soil;

– the periodical soil moisture excess, generated by the swamping phenomenon which has affected hundreds hectares of land;

– the soil erosion, generated, in certain local leaders' opinion, by the proximity to the Danube;

– the pollution phenomenon caused by the economic activities is not identified, with one exception – the commune Bistreț; the precariousness of the agricultural economy and the low economic diversification level in the community implies the low utilization of pollution generating factors (Table 2).

Table 2
Environmental characteristics – local leaders' assessment

Environmental characteristics	Gostinu	Oinacu	Bistreț	Rast
Periodical moisture excess	yes	yes	yes	yes
Soil erosion	yes	yes	no	yes
Landslides	yes	yes	no	no
Low and very low humus reserve in soil	Alternating	no	yes	yes
Acidity/alkalinity ¹	no	no	no	no
Chemical soil pollution	no	no	yes	no
Comments by formal leaders	<i>Danube is close, in winter, autumn, spring there are infiltrations on 300 hectares, the banks of the Danube are eroded.</i>	<i>It sporadically swamps, when there is water excess.</i>	<i>49.7% moisture excess, salinated soils, the humus reserve is low in the swampish soil.</i>	<i>Infiltrations take place in the zone near the Danube.</i>

¹ The answers are not scientifically relevant because they are not based on recent analyses made by the Office for Pedological and Agro-pedological Studies.

Source: commune fiches, applied in May-August, 2014.

⁹ Romania's Statistical Yearbook, NIS, 2013.

¹⁰ Romania's Statistical Yearbook, NIS, 2013.

The structure of the categories of use represents a significant opportunity for the agricultural diversification and rural economic diversity (Table 3). The number of hectares per rural inhabitant has been subject to obvious statistical modifications (except for the commune Rast where a diminution was noticed, from 1.7 hectares/inhabitant to 1.6 hectares/inhabitant). In this period, the increase of the land areas under pastures, mainly in the communes Gostinu and Oinacu, took place to the detriment of arable land areas; the economic implication, at least theoretically, resides in the modernization of agricultural production structures through the increase of the share of livestock production.

Table 3
The natural structure of farm capital, in dynamics terms

	Gostinu		Oinacu		Bistret		Rast	
	2006	2014	2006	2014	2006	2014	2006	2014
Agricultural area/ total area – %	70.8	70.8	76.9	75.6	73.4	73.4	77.9	77.9
Arable area/ agricultural area – %	93.7	88.7	98.5	91.4	81.7	81.7	91.1	92.1
Area under pastures/ agricultural area – %	4.4	9.4	0.4	7.6	9.9	10.0	3.8	3.8
Area under hayfields/ agricultural area – %	–	–	–	–	–	–	2.0	2.0
Area under orchards/ agricultural area – %	–	–	–	–	6.4	6.4	–	0.2
Area under vineyards/ agricultural area – %	1.9	1.9	1.1	1.0	2.0	1.9	1.8	1.9
Agricultural area/ inhabitant – ha/ inhabitant	1.5	1.7	0.97	1.2	2.08	2.08	1.7	1.6

Source: Author's own calculations on the basis of data from the commune fiches, applied in May-August, 2014.

3.1. RURAL MICRO-ZONES – DEMOGRAPHIC STRUCTURES

From the perspective of demographic structures, a dramatic decrease of the rural population was noticed, with unfavourable impact upon the natural regeneration of specific labour resources (mainly in the case of the communes Gostinu and Oinacu – Giurgiu county); the vitality index (Pearl)¹¹ followed increasingly lower values, describing a severe demographic regeneration deficit: in the period 2006-2008, for the population of the commune Gostinu, the index value decreased from 46.9% to 30.3% and for the population of the commune Oinacu from 40.9% to 20.8%.

In the investigated communes there is a balanced demographic phenomenon depending on the gender structure – the share of feminine population is over

¹¹ Vitality index (Pearl) = live births /deceased × 100.

50.0%, ranging from 52.2% in the locality Gostinu to 50.3% in Bistret; a demographic ageing process can be also noticed – the share of the population up to 19 years old is 12% (an extremely low value, in the commune Bistret) and maximum 22.2% in the commune Rast (Table 4).

The implications of the structure by age are socially noticeable, both through the low demographic regeneration capacity, and through the limited economic modernization. The negative impact upon the community development perspectives and upon the local modernization is also defined by the educational quality of the rural population (Table 5).

Table 4
The main demographic characteristics of the investigated zone

	UM	Gostinu	Oinacu	Bistret	Rast
Population increase / diminution, 2006-2011	Inhab./year	-70	-94	+24	-82
Share of women in total population, 2011	%	52.2	50.4	50.3	50.4
Share of population < 19 years old in total population, 2011	%	16.2	16.0	12.0	22.2
Share of population > 60years old in total population, 2011	%	40.2	40.4	34.2	30.4

Source: Author's own calculations on the basis of data from the commune fiches, applied in May-August, 2014.

Table 5
The demographic structure by educational level¹, %

	Gostinu	Oinacu	Bistret	Rast
Higher	1.8	2.8	2.2	2.6
Post-high school	–	1.2	0.8	1.0
Secondary	70.0	67.5	58.7	59.0
Primary	22.3	22.6	34.0	26.3
no schooling	5.9	5.9	4.3	11.1

¹ The Shares were calculated taking as basis the population over 10 years old.

Source: Author's own calculations on the basis of data from the Census of Population and Dwellings, 2011.

3.2. RURAL MICRO-ZONES – ECONOMIC STRUCTURES

The agricultural structures are representative economic structures for the economic communities, although the peri-urban status implies a dysfunctional utilization of the zonal production capacity. The type of farming practice is extensive, the crop structure maintaining a strong traditionality; the preferred forms of land farming are of associative type; there are no intensive forms of agrarian and agricultural modernization.

The agricultural production structure (investigated in the period 2006-2013) was mainly determined by the agricultural policy measures and to a low and punctual extent by the phenomena generated by flooding and/or infiltrations. In both rural micro-zones under investigation, the agricultural production structure

was subject to a slow process of economic modernization; the social modernization has been delayed. The location in medium rank rural areas (of the counties) makes them visible as economic reflections of the existing trends at this level: in the investigated period, in the agriculture of the county Giurgiu, the crop production grew from 55.0% to 68.0%, the livestock production decreased from 44.5% to 31.0% while agricultural services increased from 0.5% to 1.0%. In Dolj county the same agricultural pattern was noticed, where crop production also prevailed, up from 67.5% to 71.4%; the share of the livestock production decreased from 29.9% to 27.3%, while the agricultural services were down from 2.6% to 1.3%

3.3. THE RURAL MICRO-ZONE GIURGIU

The agricultural pattern identified in the micro-zone of Giurgiu county (the communes Gostinu and Oinacu) is characterized by a very low modernization level, as regards the type of farming practice and as agricultural organization modality. Although the two localities are very close, there are significant differences: the share of livestock farms is much higher in the commune Oinacu (24.0% of total farms), compared to the share in the commune Gostinu (1.0%); the crop farms represent 27.0% of total farms in the commune Gostinu and 6.0% in the commune Oinacu (Table 6).

Table 6
Farm structure by agricultural profile - rural micro-zone Giurgiu

	Total farms number	Mixed farms %	Crop farms %	Livestock farms %
Gostinu	953	72,0	27,0	1,0
Oinacu	1479	70,0	6,0	24,0

Source: Author's own calculations on the basis of statistical information from the County Statistics Directorate – Giurgiu.

The explanation resides in the local agrarian history and the agricultural entrepreneurial spirit, with an increased consistency and coherence in the case of the commune Oinacu. The strong difference between the two rural communities from the perspective of the livestock production activities is also revealed by the livestock herds existing on the population's households (Table 7).

Table 7
The livestock herds on the population's households in the rural micro-zone Giurgiu, number

	Gostinu	Oinacu
Bovines	300	429
Pigs	110	1126
Sheep	300	1830
Goats	75	215
Horses	50	257
Bee families	450	500

Source: The commune fiches, applied in May-August, 2014.

For each rural community in this micro-zone, different characteristics of the utilized agricultural land tenure modality have taken shape: *on one hand, the traditional modality, i.e. land farmed under **share-cropping** arrangements, is specific for the farms in the commune Gostinu, (75.0% of farms using this mechanism are from Gostinu); on the other hand, the **land lease** mechanism, (which presupposes contractual relations) is specific for the commune Oinacu; out of the total number of farms with land lease arrangements, 60.0% are from the commune Oinacu. If we analyze the farm size, we can notice structures specific for the local subsistence economy (in the case of commune Gostinu) and structures defining the transition from subsistence to commercial farms (in the commune Oinacu).*

The size of land areas into ownership is another differentiating criterion of the two rural communities: the share of farms that use maximum one hectare of agricultural land is 44.0% in the commune Gostinu and 32.1% in the commune Oinacu; the share of farms that use 5 to 10 hectares is 2.0% in the commune Gostinu and 6.7% in the commune Oinacu (Table 8).

The crop structure (Table 9) adds to the characteristics specific for each commune, i.e. the preservation of the agricultural traditionality for Gostinu and the transition to modernization and establishment of commercial farms for Oinacu.

Table 8

Structure of farms according to the size of utilized agricultural area – rural micro-zone Giurgiu, %

	Gostinu	Oinacu
maximum 1 hectare	44.0	32.1
1.1-5 hectares	53.0	60.0
5.1-10 hectares	2.0	6.7
10.1-50 hectares	0.7	1.0
50.1-100 hectares	–	0.1
over 100 hectares	0.3	0.1

Source: Author's own calculations on the basis of statistical information from the County Statistics Directorate, Giurgiu.

Table 9

Structure of farms by areas cultivated with grain cereals – rural micro-zone Giurgiu, %

	Gostinu	Oinacu
Wheat	47.4	35.0
Rye	0.4	0.05
Barley and two row barley	5.6	20.0
Oats	0.6	4.95
Maize	46.0	43.0

Source: Author's own calculations on the basis of statistical information from the County Statistics Directorate, Giurgiu.

The investigated agricultural holdings by the number of animals into ownership have quite different structures (Table 10); the difference is the result of the agrarian history of the two rural communities, and of the traditional farming modalities, preserved, taken over and adapted into variants adapted to the local area.

Table 10
Number of agricultural holdings that raise animals, by species – rural micro-zone Giurgiu

	Gostinu	Oinacu
Bovines	158	376
Sheep	185	214
Goats	43	109
Pigs	497	806
Poultry	667	1336
Horses	171	413
Donkeys and mules	1	6
Rabbits	–	6
Bee families	7	6

Source: Statistical data from the County Statistics Directorate, Giurgiu.

The technical endowment of farms is precarious in the commune Gostinu and the farms have a relative level of modernity in the commune Oinacu (Table 11). There is no agricultural holding in the micro-zone Giurgiu with organic livestock production certification, no holding with organically certified areas, with areas under conversion, no holding that uses equipment for producing renewable energy (wind, solar, biomass and hydropower).

The organization forms of the agricultural activity follow the same pattern, already well-defined, of the two rural communities: a traditional pattern for Gostinu and in transition to modernity, for Oinacu. There are 5 agricultural organizations in the commune Gostinu: 1 agricultural company, 2 commercial companies with majority private capital, 1 local council association and 1 organization of another type; in the commune Oinacu, there are also 5 agricultural organizations: 4 commercial companies with majority private capital and a local council association.

Table 11
Number of farms that use agricultural machinery and equipment – rural micro-zone Giurgiu

	Gostinu	Oinacu
Tractors	834	1005
Motor cultivators	3	4
Tractor ploughs	831	1003
Mechanical tillers	4	112
Combiners	121	429
Mechanical harrows	52	568
Mechanical traction sowers	820	884
Fertilizer spreaders	8	20
Herbicide and treatment application machines	35	66
Self-propelled combine harvesters for cereals, oilseeds, planting seeds	682	718
Self-propelled combine harvesters for fodder, sugar beet, potatoes	1	13
Motor mowers	34	304
Other machinery and equipment	57	30

Source: Statistical data from the County Statistics Directorate, Giurgiu.

The labour force utilized on the agricultural farms is proper for the two types of local rural economies. Most workers in agriculture come from the individual farms (Table 12); the contractual relationships that involve an economic rationality and define the occupational sphere in terms of modernity have only a low share.

Table 12

Number of persons working in agriculture by farm type – rural micro-zone Giurgiu

	Gostinu	Oinacu
Number of persons working in agriculture on the individual farms	1597	2522
Number of persons working in agriculture in the agricultural companies	1	
Number of persons working in agriculture in the commercial companies with majority private capital	10	22
Number of persons working in agriculture in a local council association	1	1

Source: Statistical data from the County Statistics Directorate, Giurgiu.

The modality in which the time spent on the agricultural activities is structured completes the picture of an agricultural economy in which not only the labour force under-utilization can be noticed, but also the option for a non-competitive agriculture, with low efficiency in economic and social terms (Table 13).

Table 13

Structure of the time allocated to agricultural activities – rural micro-zone Giurgiu

	Gostinu	Oinacu
0-25%	83.0	69.0
25-50%	15.4	19.4
50-75%	1.0	7.5
75-100%	0.4	4.0
100%	0.2	0.1

Source: Author's own calculations on the basis of statistical information from the County Statistics Directorate, Giurgiu.

The population employed in agriculture is characterized by a demographic ageing phenomenon with severe consequences upon the modernization process – the lack of appetite for innovation, the incapacity for the physical and economic re-sizing of farms (Table 14).

Table 14

Structure of population employed in agriculture – rural micro-zone Giurgiu, %

	Gostinu	Oinacu
15-24 years old	1.5	2.2
25-34 years old	6.7	6.4
35-44 years old	12.0	15.4
45-54 years old	14.0	12.6
55-64 years old	26.0	25.0
65 and over	39.8	38.4

Source: Author's own calculations on the basis of statistical information from the County Statistics Directorate, Giurgiu.

The farm heads' professional level is low in both communes; the share of the individual farm heads who have only "practical experience" is 94.5% in the commune Gostinu and 98.9% in the commune Oinacu, while the share of farm heads who have "complete agricultural education" is 0.4% and 0.5% respectively (Table 15).

Table 15
Structure of farm heads by professional level – rural micro-zone Giurgiu, %

	Gostinu	Oinacu
Only practical experience		
– agricultural holdings without legal status	94.5	98.9
– agricultural holdings with legal status	40.0	40.0
Basic agricultural education		
– agricultural holdings without legal status	5.1	0.6
– agricultural holdings with legal status	40.0	40.0
Complete agricultural education		
– agricultural holdings without legal status	0.4	0.5
– agricultural holdings with legal status	20.0	20.0

Source: Author's own calculations on the basis of statistical information from the County Statistics Directorate, Giurgiu.

In the micro-zone from Giurgiu county, the non-agricultural opportunities are materialized into tourism activities, to which the putting into value of the cultural heritage could be added; in the commune Oinacu, the cultural elements with social visibility are focused on traditions and habits – the village Round Dance, the *Călușari* Dance like in Vlașca (Horse Dance), countryside social soiree, winter holidays. *Unlike other communes of the county Giurgiu where this custom exists, in the commune Oinacu, each of the three component villages (Oinacu, Branișteea and Comasca) has one band of horse dancers with different costumes, dance steps, accompanying tunes and succession of the dance ritual moments, even though the localities are located at a short distance one to another... the horse dancers band is known for its dance virtuosity not only locally, but on a larger area*¹². In the commune Gostinu, the tourism opportunities are generated by the proximity to the Danube: *"you cannot see the end of the beach... this beach is highly dependent on Danube's whims. When the River is swollen, like in last year, it "eats up" the beach... You can easily walk through the water, up to the island... When you take a bath in the river, you can go some 50 meters off shore and the water gets to your waist. Over the week-end, these places are invaded by hundreds of people, some people from the town Giurgiu, others from Bucharest, and we are told that they also come from hundreds of kilometers away, from Transylvania"* (mayor, commune Gostinu).

¹² Vlașca treasures. Vlașca Culture and Tradition Journal, Year 1, no. 1, December 2009.

3.4. RURAL MICRO-ZONE DOLJ

The specific pattern for the communes in Dolj county is defined by two local economies with their own individuality, with specific structures and functionalities for each community under study. The share of farms with a mixed profile prevails in both localities, yet with different sizes depending on the agricultural development level: in the commune Bistreț the percentage share amounts to 72.0%, while in the commune Rast it amounts to 90.0%; the farm specialization, crop or livestock production, has a low specific weight: in the commune Bistreț, out of total farms, 19.0% are specialized in crop production and 9.0% in livestock production; in the rural locality Rast, 8.0% of farms are specialized in crop production, and 2.0% in livestock production (Table 16).

Table 16
Structure of farms by agricultural profile – rural micro-zone Dolj

	Total farms number	Farms – mixed production %	Farms –crop production %	Farms – livestock production %
Bistreț	1690	72.0	19.0	9.0
Rast	1177	90.0	8.0	2.0

Source: Author's own calculations on the basis of statistical information from the County Statistics Directorate, Dolj.

The agricultural land tenure has different structures from one locality to another; *out of total utilized agricultural area, the land area under ownership, in the commune Bistreț accounts for 54.0%, the land under concession accounts for 20.0%, the land under land lease arrangements 25.6%, while the share of land under share-cropping system 0.4%; these shares define an economic behaviour with modernity notes because the farmers in the commune Bistreț prefer contractual relations, giving up the traditional forms of share cropping arrangements. In the commune Rast, the land behaviour structure is the following: the share of the utilized agricultural area under ownership is 60.0%, under land lease arrangements 31.5%, under share-cropping 0.1%, while the land in use on a free basis represents 0.20% and other ways of utilization represent 8.2%. In the commune Bistreț the utilized agricultural area/farm amounts to 6.06 hectares/farm and in the commune Rast 4.82 hectares/farm; these values reveal a land concentration process, which is characteristic to modern agriculture; the low values reveal that the agricultural modernization process is in an early stage.*

If we analyze the size of farms, we can notice structures specific to the local subsistence economy, in the case of the commune Bistreț and structures defining the transition from subsistence to commercial farm, in the commune Rast (Table 17). *The farms that utilize an agricultural area of maximum 1 hectare account for 67.0% in the commune Bistreț and 38.2% in the commune Rast; the share of farms that utilize 5 to 10 hectares is 2.5% in the commune Bistreț and 7.5% in*

the commune Rast. The share structure of the farms in commune Rast is much more balanced, compared to the commune Bistreț, and half of the farms are found in the size class 1.1-5 hectares.

Table 17
Structure of farms by size of utilized agricultural area – rural micro-zone Dolj, %

	Bistreț	Rast
maximum 1 hectare	67.0	38.2
1.1-5 hectares	29.0	50.0
5.1-10 hectares	2.5	7.5
10.1-50 hectares	0.8	3.2
50.1-100 hectares	–	0.5
over 100 hectares	0.7	0.6

Source: Author's own calculations on the basis of statistical information from the County Statistics Directorate, Dolj.

The crop structure adds to the characteristics specific to each commune, but in both agricultural areas, we can notice a perennial element in the local agriculture by maintaining into cultivation certain traditional crops – wheat and maize (Table 18).

Table 18
Structure of farms by areas cultivated with grain cereals – rural micro-zone Dolj, %

	Bistreț	Rast
Wheat	37.0	36.0
Rye	0.2	1.0
Barley and two row barley	7.0	23.0
Oats	2.0	9.0
Maize	53.8	31.0

Source: author's own calculations on the basis of statistical information from the County Statistics Directorate, Dolj.

The investigated agricultural holdings by animals into ownership have different structures; the difference stems from the agrarian structure of the two rural communities and from the traditional farming practice (Table 19).

Table 19
The number of agricultural holdings with livestock herds by species – rural micro-zone Dolj

	Bistreț	Rast
Bovines	258	240
Sheep	399	3
Goats	104	97
Pigs	1080	681
Poultry	1316	916
Horses	388	62
Donkeys and mules	3	1
Rabbits	3	–
Bee families	19	2

Source: Statistical data from the County Statistics Directorate, Dolj.

The technical endowment (Table 20) is precarious on the farms from the commune Rast, while the mechanical equipment of the agricultural holdings from the commune Bistreț has a high share (out of total self-propelled harvesting combines for cereals 71.0% belong to the farmers from the commune Bistreț; out of total mechanical traction sowers, 75.0% are into the ownership of farms from the commune Bistreț).

Table 20
Number of farms that use agricultural machinery and equipment – micro-zone Dolj

	Bistreț	Rast
Tractors	673	214
Motor cultivators	139	4
Tractor ploughs	602	209
Mechanical tillers	375	31
Combiners	53	18
Mechanical harrows	368	178
Mechanical traction sowers	579	189
Fertilizer spreaders	137	4
Herbicide and treatment application machines	224	15
Self-propelled combine harvesters for cereals, oilseeds, planting seeds	439	179
Self-propelled combine harvesters for fodder, sugar beet, potatoes	1	3
Motor mowers	17	5
Other machinery and equipment	13	6

Source: Statistical data from the County Statistics Directorate, Dolj.

The farming activity organization modalities make a difference between the two investigated communities: in the commune Bistreț, the important number of agricultural companies that provide jobs for 64 persons is a characteristic of a modern organizational matrix; on the contrary, the number of persons employed by the commercial companies in the commune Rast is very low (Table 21).

Table 21
Number of persons working in agriculture by farm type – rural micro-zone Dolj

	Bistreț	Rast
Number of persons working in agriculture on individual farms	2692	2568
Number of persons working in agriculture in agricultural companies		
Number of persons working in agriculture in the commercial companies with majority private capital	64	4
Number of persons working in agriculture in a local council association	1	1

Source: Statistical data from the County Statistics Directorate, Dolj.

The labour force used on the agricultural holdings is proper for the two types of local rural economies. ***Most agricultural workers are working on the individual farms; the contractual relations that involve an economic rationality and define the occupational sphere in modernity terms have a low share.***

The modality in which the time spent on agricultural activities is structured completes the picture of a peri-urban agricultural economy: the low share of agricultural activities validated by the allocated time structure; most people allocate maximum 25% of the time dedicated to agricultural activities, i.e. 73% – commune Bistret and 60% – commune Rast (Table 22).

Table 22
Structure of the time allocated to agricultural activities – rural micro-zone Dolj, %

	Bistret	Rast
0-25%	73.0	60.0
25-50%	17.0	28.0
50-75%	6.0	9.0
75-100%	2.0	2.0
100%	2.0	1.0

Source: Own calculations on the basis of statistical information from the County Statistics Directorate Dolj.

The population working in agriculture is characterized by demographic ageing with severe consequences upon the modernization process; the lowest values of the population employed in agriculture are found in the group of young people, 15-24 years old – 2.0% for the commune Bistret and 7.0% for the commune Rast, while the highest values are specific for the elderly population, 65 years old and over – 55.8% in the commune Bistret and 31.3% in the commune Rast (Table 23).

Table 23
Structure of the population employed in agriculture – rural micro-zone Dolj, %

	Bistret	Rast
15-24 years old	2.0	7.0
25-34 years old	7.0	12.0
35-44 years old	12.5	16.7
45-54 years old	12.0	14.0
55-64 years old	22.7	19.0
65 years old and over	55.8	31.3

Source: Author's own calculations on the basis of the statistical information from the County Statistics Directorate, Dolj.

The farm head's professional level is low in both communes; the share of the individual farm heads who have only "practical experience" is 99.0% in the commune Bistret and 85.0% in the case of the commune Rast, while the share of farm heads with "complete agricultural education" is 0.8% and 1.0% respectively (Table 24).

Table 24
Structure of farm heads by professional level, %

	Bistreț	Rast
Only practical experience		
– agricultural holdings without legal status	99.0	85.0
– agricultural holdings with legal status	60.0	80.0
Basic agricultural training		
– agricultural holdings without legal status	0.2	14.0
– agricultural holdings with legal status	20.0	–
Complete agricultural training		
– agricultural holdings without legal status	0.8	1.0
– agricultural holdings with legal status	20.0	20.0

Source: Author's own calculations on the basis of statistical information from the County Statistics Directorate, Dolj.

Although there is a relative diversification of the natural and economic resources potential, this is not reflected at the level of local economies in socio-occupational terms, no significant non-agricultural activities exist to enable the occupational diversification, and no concrete utilization modalities of the local productive capacity have been identified. The rural micro-zone of the county Dolj features the same characteristics as those from the county Giurgiu; the tourism opportunities are present in both localities: in the commune Rast, there is a leisure area named “Ostrovul Vana” beach no. 1 Danube’s bank – “Butoi” area, beach no. 2 Danube’s bank – “Plutitoare” area; in the commune Bistreț there is also a leisure and sportive fishing area, on the lake Călugăreni and the industrial fishing area, on the lake Bistreț Nedeea: “We have a tourism complex on the Pond Călugăreni, which already began operating, the pond is concessioned by us; we also have a voltaic park and 10 cabins on the lake Călugăreni... the lake Bistreț is at AMPA, we have concessioned it. The dykes inside the pond are concessioned or sold... on the place of the former Piscicola there is a quarry, it is here that I intend to develop tourism projects, but I must develop the infrastructure, ... I struggled for Brândușa, I want it now at Bărca and then to shorten the distance to Craiova, at 50 km, it is easier for those who come to go fishing. At Călugăreni I want to build a road. The lake Călugăreni is a natural lake” (mayor, commune Bistreț).

3.5. RURAL MICRO-ZONES – COMMUNITY STRUCTURES

The technical-urban structures are specific to non-modernized rural communities, and there are no objective frameworks for a decent daily life. In both rural micro-zones, the indicators define a precarious situation (Table 25): there is a low share of dwellings with inside water supply network in the rural micro-zone Giurgiu; in the commune Oinacu, the share of 31.0% reveals a noticeable increase of the dwelling modernization level; the aspects are contradictory because the share of households with inside kitchen is 72.4%, the share of those with a bathroom inside the house is 26.0%; 2.7% is the share of households that have not been electrified yet. In the locality Gostinu, the values of the utilized indicators are

much lower, specific for a dwelling space with too few civilization facilities: the share of the dwellings with inside water supply in total households is 13.4%, that adds to the share of 13.6% of households with indoor bathroom, and 71.6% of households that have a kitchen inside the dwelling. In the rural micro-zone Dolj, these shares are very low, ranging from 7.2% in the commune Bistreț to 14.2% in the commune Rast.

Table 25
Structure of households with technical endowment, %

	Gostinu	Oinacu	Bistreț	Rast
On-dwelling water supply	13,4	31,0	7,2	14,2
Sewerage system	13,4	31,0	7,2	14,2
Electric power	100,0	97,4	99,0	97,9
Kitchen inside the dwelling	71,6	72,4	50,0	51,5
Bathroom inside the dwelling	13,6	26,0	7,0	12,5

Source: Census of Population and Dwellings, 2011, NIS.

In the rural micro-zone Dolj, the technical endowment level is quite precarious, and both localities there is a low share of non-electrified households – 1.0% in Bistreț and 2.1% in Rast, the share of households with inside water supply network is 7.2% in Bistreț and 14.2% in Rast; the shares of households with kitchen inside the dwelling are 50.0% in Bistreț and 51.5% in the commune Rast, while the share of households with bathroom inside is very low, 7.0% in Bistreț and 12.5% in Rast.

The educational and cultural structures describe a limited social space in terms of cultural supply from the point of view of the material/objective logistics (Table 26).

Table 26
Educational and cultural infrastructure – the rural micro-zones Giurgiu and Dolj

	Gostinu	Oinacu	Bistreț	Rast
Education units – primary and secondary school	1	1	1	1
Regular classrooms and specialized classrooms	5	10	21	8
School laboratories	1	2	1	1
Libraries	2	3	2	2

Source: Statistical data from the County Statistics Directorates, Giurgiu and Dolj counties.

The number of regular classrooms, specialized classrooms and laboratories is very low in both investigated micro-zones. Because the young population decreased in number, the number of pupils per teacher has reached values that enable the development of a normal educational process; in the locality Gostinu there are 16 pupils/teacher in the primary school and 12 pupils/teacher in the secondary school; in the locality Oinacu, there are quite similar values, i.e. 13 pupils/teacher for primary and secondary school. In the rural micro-zone Dolj, the values describe the same capacity of the teaching staff to perform the educational act under normal conditions: in the commune Bistreț there are 15 pupils/teacher in the

primary cycle and 10 pupils/teacher in the secondary cycle; in the locality Rast the values are 16 pupils/teacher for the primary cycle and 21 pupils/teacher for the secondary cycle.

The endowment of communes with infrastructure necessary for the development of the medical act is inadequate (Table 27).

Table 27
The health infrastructure – the rural micro-zones Giurgiu and Dolj

	Gostinu	Oinacu	Bistreț	Rast
Physician's offices	1	2	2	2
Dentist's offices		1		1
Pharmacies, pharmaceutical points			2	1

Source: Statistical data from the County Statistics Directorates, Giurgiu and Dolj.

The values of the indicator number of inhabitants/physician are quite alarming from the perspective of prevention and complete healthcare; in the micro-zone Giurgiu the number of inhabitants per physician is 2194 in the commune Gostinu and 1813 in the commune Oinacu. In the micro-zone Dolj, quite similar values can be noticed, namely 2145 inhabitants/physician in the commune Bistreț and 1783 inhabitants/physician in the locality Rast – a totally improper framework for providing healthcare.

In the local leaders' opinion, in all the investigated communes, the situation of the healthcare and educational services are considered to be real problems in the community (Table 28); the perception degree is differentiated, i.e. in the rural micro-region Giurgiu and in the commune Gostinu the two sectors are considered very serious problems, while in the rural micro-zone Dolj these are not considered serious problems. The different valorization is generated by the comparisons that the local leaders made between the different categories of problems; flooding, which is a permanent risk that the communes in the rural micro-zone Dolj are facing, has pushed the education and healthcare dysfunctionalities on a secondary place.

Table 28
The problems of the rural communities*

	Easy	Serious	Very serious
Roads	Gostinu, Oinacu, Bistreț		
Drinking water	Bistreț		
Isolation			
Air pollution			
Water pollution			
Soil pollution		Gostinu, Oinacu	
Periodical flooding/periodical infiltrations		Bistreț, Rast	
Healthcare services	Bistreț	Gostinu	
Educational services	Bistreț	Gostinu	
Electrification			
Public lighting			Bistreț
Inter-ethnic conflicts			

* Evaluation by formal leaders.

Source: Commune fiches, applied in July-August, 2014.

3.6. RURAL MICRO-ZONES – RISK MANAGEMENT

Risk management by the local authorities was analyzed from the perspective of:

- territory's equipment with specific facilities/buildings for the prevention and protection against natural risks;
- identification of the existing relations between the institutions in charge with the setting up and management of the facilities/buildings specific for the prevention and protection against natural risks;
- the actions taken after the recent flooding;
- the local people's opinion (perception) on flooding;
- the perception of flood management.

The two investigated micro-zones make it possible to differentiate between two types of behaviour:

– ***In the rural micro-zone Giurgiu, the local formal leaders are not very involved in the management of hydrotechnical facilities; this can be explained by the segmentation produced in the community life and by the formal nature of the community strategies and decisions.*** For example, in the rural micro-zone of the localities Gostinu and Oinacu, the presence of the dyke built in the perimeter Giurgiu Oltenița is perceived differently: while in Gostinu we can find the opinion according to which the dyke has been never repaired since its construction, in Oinacu its maintenance is in charge of the county institutions, which means that the full responsibility is theirs. The area in the dyke proximity is perceived as being the most subject to risk, vulnerable from the point of view of the productive capacity: *“There is the ANIF/Romanian Waters dyke, they repair and maintain/the sand stocks. The infiltration phenomenon has been aggravated, the drainage system was destroyed. People are waiting for the authorities to get involved, for the city council to dig a ditch.”* (mayor, commune Gostinu).

In the communities in this micro-zone, the concern is focused on the yearly infiltrations: *“The infiltrations from the Danube sum up 300 hectares each year, because the Danube is at a distance of 1.5-2 km”* (employee, Gostinu local council); *“It is sporadically swamping, when there is water excess, rainfalls, this is well-known, in spring, 50 hectares, everywhere where the land is lower, down ther”* (employee, Oinacu local council). The risk management of the local authorities focuses on the empirical-productive dimension, on the limitation of the yearly losses of crops located in the area affected by infiltrations. *“People have been working on the dyke, they've put sand bags here”* (employee, Oinacu local council); *“There is the ANIF, Romanian Waters dyke, they repair, maintain... The local council supplies bags, foil, permanent people. People are waiting for the authorities to take actions, the local council has been digging a canal... Commissions at county level for the damages, material from ISU, prefect's office, Romanian Waters, Agricultural Directorate, but they found out that it is never known whether people will get compensations”* (employee, Gostinu local council).

There is a social passivity, the infiltrations being perceived as a disaster that one cannot avoid. *“The ordinary people are worried that they cannot harvest the crops... they explain that there are infiltrations because the Danube is near... They do not blame anybody if there is much water, there are infiltrations. **Nothing can be done**”* (employee, Gostinu local council). *“This is where our land is located **we took it for granted**”* (employee, Oinacu local council).

At the level of the local authorities, certain behaviours can be noticed that are the result of a certain type of residual archaism, preserved and promoted by traditional rural structures that emerged under a mimetic pattern of the modern structures. For instance, in the community Oinacu, a passive behaviour can be noticed, on one hand; on the other hand, there is a manifest prevention behaviour: the warnings, the concrete intervention modalities are extremely visible by their posting in the local council’s public space: on the local council notice board there are announcements referring to the means of signalling out the natural danger –the audio signal operation regime, the hierarchy of water quotas depending on the severity of the phenomenon.

– In the rural micro-zone of the county Dolj, a well-defined behaviour emerged, determined by the severe flooding in the year 2006, followed by the infiltration phenomenon. The complex community behaviour, at the level of local leaders’ perception, is supported by data provided by the recent memory and by the fact that a series of consequences are visible even nowadays. *“In the month of April 2006, 3500 hectares and 247 houses were flooded, and in the spring of the year 2014, 400 hectares of land and access ways were flooded, mainly in the village Plosca.”* (mayor, commune Bistret); *“In 2006 the dyke broke... the flooded population was relocated... the people were stubborn and would not move away. The old people thought the water would stop”* (vice-mayor, commune Rast). *“People from other communes also came, relatives and friends to help them with their things and animals. The gendarmerie cars permanently operated.... about 600 families were moved, with one to six, seven persons each. The orthodox church built 10 houses, Becali built approximately 40 houses through his foundation, the adventists one, two houses, the pentecostals brought specialists from Chuj (Radu Ponja), to help them with the concrete and they brought the materials... ANL built about 300 houses, for the rest – the government provided materials for the constructions plus a financial part”* (mayor, commune Rast). The exceptional situation activated the social relations, at the neighbouring and kinship system level, and also by setting up and organization of formalized nuclei: *“The pentecostal foundation “The House of Hope”, Radu Praja, the baptist church “The Way to Heaven”, Adi Gaspar emerged after 2006, they helped and got the roma population civilized”* (vice-mayor, commune Rast).

In the commune Rast, a new village was built because a large part of the former residential area was flooded. The implications of creating a new community are deep, because such an alternative has negative sociological repercussions: the

community disarticulation, the social capital loss – the change of the neighbourhood relations, the destruction of the family cohesion, the loss of local identity and symbolistics, all these having in view not only the local community, but also the whole micro-zone. “*Belonging to the community finds its legitimacy in the kinship relations; at the same time, the community act resides in their transformation into social relations. Another legitimacy source resides in the relation with the territory, on the basis of which the community finds its existence principle in the history, its perennity along the reproduction process*”¹³.

The territory equipment with hydro-technical facilities, constructions necessary for the natural risk prevention, characteristic to the two investigated microzones, is perceived differently.

The flood intensity (in 2006) and the extreme consequences made the community people aware of the technical aspects of the hydro-technical constructions, of the years when the repairs were made and of the rehabilitation works. It is a cognitive approach permanently updated by the deep impact of flood existing in a near temporal universe: “*In 2006 over 3 000 hectares were affected, agricultural land and pastures, what happened in 2006 also had happened 100 years before... 3300 hectares were flooded at Bistreț and Plosca. In 2006 Brândușa and Bistrețu Nou were less affected. The houses in Plosca and Bistrețu were rebuilt on the old location. There are problems each year. In 2014, 400 hectares were under water, land areas and access ways. In Plosca, water is very close to people’s yards.*” (mayor, commune Bistreț).

Risk management needs taking active measures at the level of local authorities. “*The pumps are on the commune’s territory, we are struggling to set up an intervention point, to fight against clogging and to build up facilities to control the flooding and for this purpose I purchased machines*” (mayor, commune Rast). **We find that at the level of the local authority in the commune Rast there is an attitude specific for the instrumental activism, propensity for the valorization of the community action, refusal of fatalism in order to manage the risks induced by the environment, on the condition to utilize the community’s own means.**¹⁴

4. CONCLUSIONS

The investigated rural micro-zones consist of communities with a *peri-urban status*, established according to different historical, geographical, economic and social situations. The rural dynamics has followed different trajectories, being the

¹³ Chevalier, S., *Destin du concept „communauté”: de la classe sociale à la culture. Le cas de la Grande-Bretagne*. Esprit critique, vol. 10, nr. 01, automne 2007.

¹⁴ Peretti-Wattel, P., *La culture du risque, ses marqueurs sociaux et ses pradoxes. Une exploration empirique*, revue Economie&Sociologie, 56, 2, 2005.

complex result of the interactions between: the rural restructuring generated by external factors (agriculture rationalization) and internal factors (agricultural modernization); the rural restructuring induced by external factors (social emancipation) and internal factors (rural modernization). The location of the communities in peri-urban areas defines them as hybrid socio-economic spaces of the intermediary area between rural and urban spaces; the distances imply a slightly different influence because: the rural area in Giurgiu county is at a small distance from the town – Oinacu at 8 km from Giurgiu municipality, Gostinu at 18 km from Giurgiu municipality; in Dolj county, the situation is slightly different, as the investigated rural area is located at a relatively great distance from the town – Rast is at 22 km from the town Băilești and Bistreț at 30 km from the town Băilești; the urban profiles are different: the municipality Giurgiu is an old town, with multiple functionalities (administrative, economic, cultural, social), complex economic structures (agricultural, industrial, commercial, tourism, cultural); the town Băilești has only recent urban history (it has had the town status for only 13 years) and it has a strong commercial traditionality (based on agricultural and agri-food products). The urban polarization is filtered through the spatial and economic characteristics of the investigated zone, influencing the local rural economy types, the behaviours, both at community and individual level, influencing the modernization/development strategies.

From the perspective of the demographic structures, a dramatic decrease in number of the rural population was noticed, with unfavourable impact upon the natural regeneration of labour resources.

The representative economic structures for the economic communities are the agricultural ones, although the peri-urban status involves a dysfunctional utilization of the zonal productive capacity. From the analyzed data, it resulted that the agricultural practice is of extensive type, the crop structure maintaining a strong traditionality note; the preferred forms of farmland organization are the associations. The agricultural pattern identified in the micro-zone of the county Giurgiu (communes Gostinu and Oinacu) can be characterized by a very low modernization level as type of agricultural practice and as agriculture organization modality. In the commune Oinacu, the entrepreneurial spirit in agriculture and the commercial farms development trend are indicators of a certain type of emergent socio-economic modernization. The specific pattern of the communes in Dolj county is defined by two local economies with their own individuality, with structures and functionalities specific to each investigated community. The utilized agricultural area per farm in the commune Bistreț is 6.06 hectares and 4.82 hectares in the commune Rast; these values reveal a land concentration process, characteristic to a modern agriculture, but the low values indicate that the agricultural modernization is in an early stage.

Table 29
Community characteristics

	Gostinu	Oinacu	Rast	Bistret
Urban influence	Strong	Strong	Strong	Strong
Economic profile	Agricultural	Agricultural	Agricultural	agrarian
Risk culture-premises	–	–	Instrumental activism	Instrumental activism
Risk management-actions	Institutionalized	Institutionalized	Institutionalized	Institutionalized
Risk perception	Natural causality	Natural causality	Natural causality + economic, political factors	Natural causality + economic, political factors
Difficulties met during the flood/infiltrations	Technical	Technical	Mentality + technical elements-non-functional drainage stations	Mentality + technical elements-non-functional drainage stations
Aid perception	–	–	Ambivalent	Ambivalent

Source: Commune fiches, applied in May-August, 2014.

If we analyze the farm size we can see structures that are specific to a local subsistence economy, in the case of the commune Bistret, and structures defining the transition from the subsistence to the commercial farm, in the commune Rast. In conclusion, the content and functionality of the agrarian structures define the extensive character of agriculture and the subsistence features of the local economy. We can notice an early stage of modernity and land consolidation, a higher mechanization level in the commune Bistret, a commercialization tendency in the commune Oinacu, but all these do not define a general process that affects the agrarian space of the investigated micro-zones.

The technical infrastructure is specific to the poor rural communities, and it is not suitable for a daily decent life. In both rural micro-zones, the indicators describe a precarious situation of the technical and social infrastructure.

The risk management, analyzed from the sociological point of view, can be characterized by: residual archaism in the case of micro-zone Giurgiu and instrumental activism in the case of micro-zone Dolj. In the micro-zone Dolj, at the local authority perception level, there is a much more coherent representation of the socio-hydraulic system of the community¹⁵, compared to the rural micro-zone Giurgiu; the exposure to much stronger risks and their recurrent character (the floods in 2006 had a deep impact in the rural life of the communities Bistret and Rast, the annual infiltration phenomenon) has generated permanent concerns at the local public authorities level.

¹⁵ „The socio-hydraulic system puts into value the complex interpretations and actions referring to relationship between nature, technics and society. The system evolution emerges by passing from the risk's perception towards activities against floods.” Picon, B., Allard, P., Claeys-Mekhadec, Killian, S., Gestion du risque, inondation et changement social dans le delta du Rhône. Les catastrophes de 1856 et 1993-1994, Cemagraf, Géocarrefour, vol. 82/1-2/2007.

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