

SUSTAINABLE DEVELOPMENT PROSPECTS FOR THE DANUBE DELTA RURAL COMMUNITIES

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Les perspectives de développement durable des communautés rurales dans le Delta du Danube.

Le Delta du Danube est une entité géographique bien individualisée non seulement en termes des relations spécifiques qui sont établies entre les composantes du milieu naturel, mais aussi en termes des éléments qui définissent le contexte économique et social deltaïque. Dans cette espace, plus que dans les autres unités géographiques de la Roumanie, le cadre naturel met une profonde empreinte sur la structure, sur les fonctions et les composantes de la dynamique démographique, économique, sociale et culturelle. La population du Delta du Danube est, par les conditions de la imposées par les facteurs naturels, mais aussi par l'infrastructure économique et technique et par les services publiques inadéquat aux conditions normales de vie, un secteur social vulnérable. C'est pourquoi, il est nécessaire d'élaborer et de définir les meilleures solutions pour l'amélioration de la qualité de la vie et pour un développement durable. Les particularités socio-économiques reflètent la restriction du cadre naturel et les particularités géographiques par les phénomènes de la féminisation et du vieillissement de la population, une faible préparation socio-professionnelle de la population et une spécialisation économique dans les activités traditionnelles avec une faible valeur ajoutée (pêche, récolte de roseau, agriculture etc.). La transition économique et la déclaration de Delta du Danube comme Réserve de la Biosphère en particulier ont conduit à des changements socio-économiques et à des ajustements des communautés et des économies locales aux conditions environnementales. L'écotourisme, nouvelle activité dans le Delta du Danube vise à devenir la principale activité qui contribue au développement durable de la région, mais il est nécessaire une infrastructure physique et socio-économique bien réglée. Le nouveau statut du Delta du Danube, zone protégée, a conduit à une réorganisation des activités touristiques qui s'y déroulent, par une exploitation durable des ressources naturelles et notamment des ressources du paysage.

Settlement in the Danube Delta dates back to ancient times given that the Danube mouths facilitated trading activities. The Romanian element in the area could be preserved due to transhumance, cattle breeders being a constant presence on the Delta's levees. Over the last few centuries, the ancestors of a part of today's inhabitants used to come from Transylvania to winter with their flocks and some would settle here for good. Certain villages, among which Letea, were founded by Transylvanian shepherds (Rom. *mocani*).

Although the Danube Delta had long been ruled by the Ottoman Empire, yet many place-names are of Romanian origin, which proves that the Danube mouths and the Black Sea region have always been inhabited by a Romanian population that practiced fishing and agriculture.

The Romanian place-names designate the marine delta lakes, e.g. Răducu, Lumina, Puiu, Puiulet, Roșu, and Roșuleț.

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In time, various populations would settle in Dobrogea, usually temporarily, alongside the Romanians (Tartars, brought mainly by the Turks, were shepherds and horse-breeders; Bulgarians, who arrived mostly after the Russian-Turkish wars; Russians (largely Lippovans) and Ukrainians engaged in fishing) (Table 1).

Table 1

The ethnical structure of the population (census figures)

Nationality	1912 census	% of the total population	1992 census	% of the total population	2002 census	% of the total population
Romanian	2,652	21.70	11,493	77.90	12,666	86.88
Ukrainian	4,303	35.20	1,329	9.01	299	2.05
Lippovan Russian	1,709	14.00	1,663	11.27	1,438	9.86
Greek	2,059	16.80	0	0	0	0
Turkish and Tartar	290	2.50	13	0.09	17	0.12
Bulgarian	103	0.80	7	0	0	0
Armenian	444	3.60	2	0	0	0
German	49	0.40	3	0	0	0
Austro-Hungarian	211	1.70	11	0	0	0
Jewish	173	1.40	0	0	0	0
Albanian	117	1.00	0	0	0	0
Italian	45	0.40	0	0	0	0
English	24	0.20	0	0	0	0
Montenegro	22	0.20	0	0	0	0
French	11	0.10	0	0	0	0
Other nationalities			35	0,39	33	0.23
Total	12,209		14,754		14,583	

Source: Population Census (1912–2002)

Among the oldest settlements is also the town of Sulina, documented in the 10th century. The latest locality, Maliuc, is a communal seat, conceived initially to be a scientific research centre. Most of the permanent settlements existing today were set up in the 19th and early 20th cc, e.g. Sfântu Gheorghe (known since 1813), Caraorman (1819), C.A. Rosetti (1860), Crişan (1887), Vulturu (1916) and Sălceni (1936).

After 1856, on the initiative of the European Commission of the Danube, management works to the Sulina Arm stimulated commercial and transport activities. The population also increased with newcomers from Moldavia and Wallachia. Several new localities emerged mainly alongside the Sulina Arm (Ilgani de Sus, Partizani, Crişan, Floriile, Ceamurlia, Vulturu and Mila 23).

A characteristic feature of the Delta is the alternation of populated areas in which various activities are discharged, and unpopulated areas. The settlement systems, developed in-between the Delta arms, consists of one town (Sulina), and 7 communes (C.A Rosetti, Ceatalchioi, Chilia Veche, Crişan, Maliuc, Pardina and Sfântu Gheorghe), 23 settlements in all (Fig. 1). They are small and very small-sized in terms of population number, have a simple texture, usually one cluster line (Crişan). The largest locality is Chilia Veche (3,652 inh., 2002 census data).

The scarcity of Delta settlements is the result of 80% of its area being covered by water (three main arms Chilia, Sfântu Gheorghe and Sulina) and a secondary drainage network (channels and canals, backwaters, swamps, lakes, etc.).

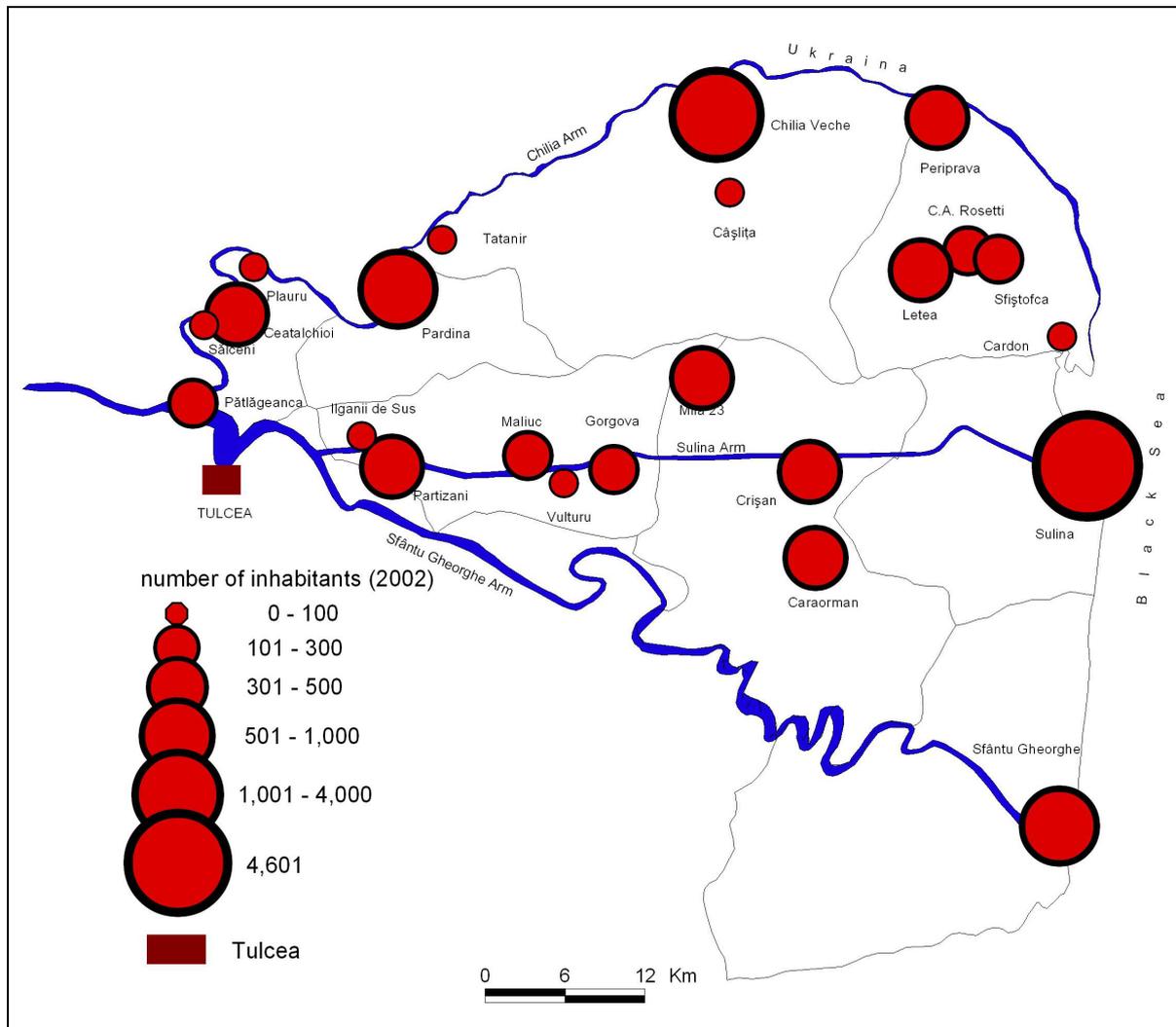
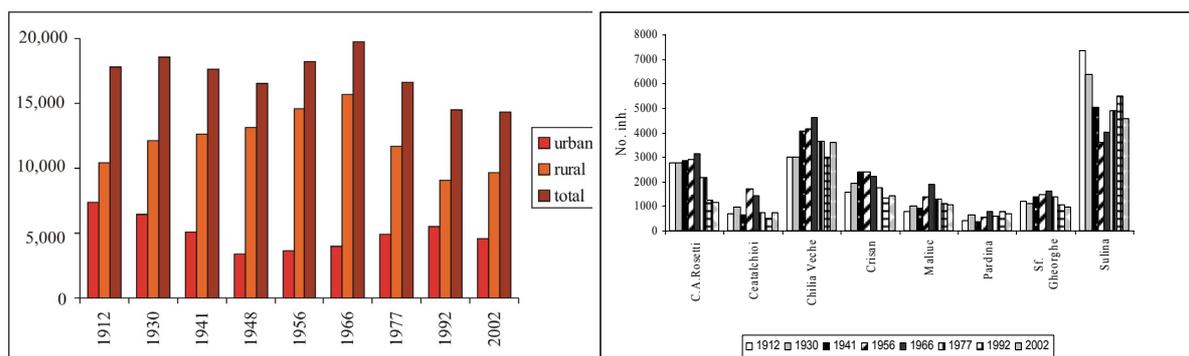


Fig. 1 – The demographic size of settlements in the Danube Delta (2002).

TRENDS IN THE DELTA'S DEMOGRAPHIC EVOLUTION

In general, the Delta's population tends to evolve in line with the national and regional population characterized by numerical decline and migration. However, these phenomena are much more acute here due, on the one hand, to the socio-economic and political transformations experienced by Romania over the past few years, and on the other, to the harsh living conditions, including isolation, few job-opportunities, difficult transport, little available information and cultural offer. Therefore many locals, especially young people, choose to move to regional towns, or elsewhere in the country.

Over the 1912–2002 interval all of the 23 settlements registered a demographic decrease; however, there were times when positive evolutions were recorded obvious with differences from town to village. The annual average decrease of 2.5 % translated in more than 3,500 fewer people (Figs. 2, 3).



Figs. 2, 3 – The Danube Delta population by census figures and localities (1912–2002).

FUNCTIONAL SETTLEMENT TYPES

The village is a component part of an area and of the settlement system as a whole, it is a synthesis of all the territorial, demographic and functional elements. The connection between the local and the socio-territorial systems is best defined in terms of function discharged by the respective village. This function depends on the specific character of production, life-style and environmental particularities. The basic criterion for establishing the types of activity is the professional structure of the employed population. An important factor accounting for the development of certain economic activities is the geographical position.

The economic activities discharged by the Danube Delta settlements are as follows:

- fishing: Mila 23, and Sfântu Gheorghe;
- fishing and agriculture: Letea, Periprava, Sfiştofea, Chilia Veche, and Ceatalchioi;
- agriculture: Pardina, Sălceni, Plauru, C.A. Rosetti, and Cardon;
- navigation, industry and tourism: Sulina, Crişan, Maliuc, and Partizani.

A major drawback to the development of the Delta settlements is their territorial location, namely dispersed and isolated. Isolation can be interpreted in lots of ways, e.g. the Delta's geographical position, bordering on the Ukraine in the north, and lined by the Black Sea territorial waters in the east; as well as the time-consuming distance to the big regional polarising centres (Constanţa, Galaţi and Brăila) and to the local polarising centres of Sulina and Tulcea.

Geographical isolation implies also the distance between localities inside the Delta itself, lack of infrastructure facilities and services offered by communal seats. Speaking of isolation the following criteria should be taken into consideration:

- the distance to the administrative centre, that is the distance from the villages pertaining to a commune to the communal seat;
- the distance to the nearest neighbouring locality, which has more inhabitants than the reference settlement, or as many as it has;
- the distance to the nearest town, the nearest polarising centre (Tulcea in case of the Delta settlements) and the nearest continental transport infrastructure.

TERRITORIAL DISPARITIES AMONG THE DANUBE DELTA SETTLEMENTS

In terms of settlement pattern and economic profile, two territorial structures can be distinguished: one is shaped by the Tulcea-Sulina traffic axis, the main activities relating to transport, ship repair, passenger traffic and trade. This profile applies also to the other two Danube Arms – Chilia and Sfântu

Gheorghe, but activities here unfold at lower rates. Since on the latter arm, settlements are scarcer, secondary and tertiary activities are scarcer, too. The second structure is rather diffuse, settlements are more isolated, at distances of over 20 km from the main traffic axes (Caraorman, Letea, Sfiștofca, and C.A. Rosetti), or standing in the midst of the water body (Mila 23). Their dominant profile is agriculture and fishing.

In respect of its evolution and geographical position, the town of Sulina, stands out among the other deltaic localities. Its development had fewer connections with the deltaic space, its international hinterland justifying its porto-franco status assigned in the early 20th century.

Facilities for people living or working in the settlements of the Danube Biosphere Reserve (Order of 27/Aug. 13/1997):

- The personnel of public and religious institutions who occupy functions in the Danube Delta Biosphere Reserve settlements that require an academic or high-school degree. People occupying eligible positions enjoy isolation benefits of up to 60% from the base-level salary. For people employed in religious units, isolation benefits are calculated at the minimum gross base rate/country;

- On settling down in the localities they are working in, the employees receive a settlement indemnisation equivalent to two base rates. People who had received a settlement indemnisation and subsequently resign, or are dismissed for reasons of incompetence before 2 years from the settlement date must pay back, the indemnisation money received conformable with the legal provisions, proportionally to the interval left until the 2-year term expires;

- A 50% local tax reduction (Law 27/1994 on local taxes); for household consumption of electricity and drinking-water supplied by the public network, according to consumption limits/family set by the local councils; fishing with own tools for family consumption;

- Juristic persons investing in the area benefit by deduction investment expenses from the taxable profit for 5 years in the countryside and for 10 years in Sulina Town, as of the moment the investment is being made.

THE MAIN PROBLEMS FACING THE DANUBE DELTA COMMUNITIES

Currently, the main problem is job shortage, a situation affecting primarily young people. Getting employment in the towns neighbouring the Delta is a difficult matter because of high commutation costs and severe unemployment in those towns themselves; adequate use of the rural labour force and higher incomes for the population are also priority concerns, as is unemployment and poverty; lack of properly treated water and supplies to settlements; poorly equipped houses prevent tourist accommodation, poor services quality, insufficient promotion in the mass-media, few information centres, few professionals in tourism, and tourist sites not sufficiently put to account.

UNEMPLOYMENT

The number of jobless people used to increase and decrease in terms of the economic and socio-political situation. Stimulating socio-economic activities has a positive numerical impact on the registered unemployed.

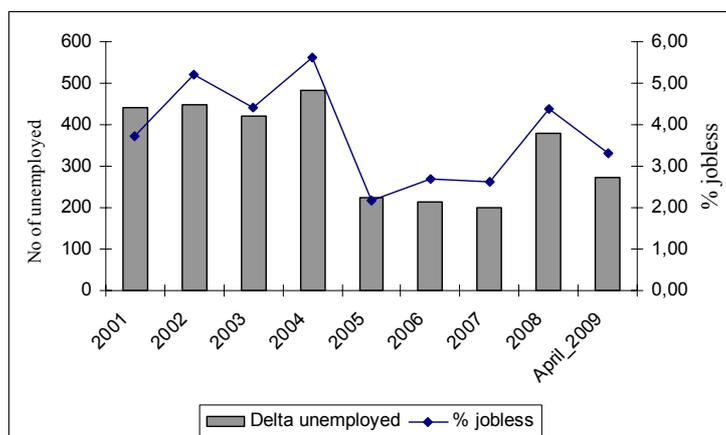


Fig. 4 – Number and rate of jobless people in the Danube Delta (2001–2009).

After the 1990s, when unemployment started being officially reported, the number of jobless people was on the rise in the building sector, but on the decrease in agriculture-based settlements (Ceatalchioi and Pardina). Job shortage and the absence of economic activities affects primarily the young workforce. Practicing agriculture is limited by inadequate farming lands, while fishing and implicitly the number of fishermen drops by the year.

PROFESSIONAL TRAINING

Renaturation and interdiction of industrial-scale fishing asks for fishermen to engage in other activities, for example, in ecological tourism. Fishing may be practiced, but only for household consumption, and the surplus sold only to the Delta accommodation units. Another possibility is to induce people to give up fishing and try other activities by giving them compensatory wages. However, most fishermen (over 1,500) turned down the offer and as a result lost their job. They do not accept attending the retraining classes offered by the Labour Employment Tulcea County Agency (LETCA), eventually losing the status of unemployed, choosing rather to work on the black market, or start poaching.

For many fishermen poaching means a better living, higher revenues, although poachers are permanently in conflict with the authorities who try to eradicate this practice.

If adequately trained, the Delta inhabitants might give up this practice and turn to tourism and handicrafts (open up shops for the manufacturing of reed and club-rush items).

The data supplied by LETCA indicate that many jobless people are not registered as unemployed, they preferring to live on subsistence agriculture, fishing, or work at various employers without labour documents.

POVERTY

Poverty in the Delta shows up in poor health and reduced life-expectancy due to heart diseases, improper diet and untreated water; low incomes, little access to education and the absence of professional facilities (no mass-media facilities for the locals to express their views on the situation they are in, or on matters of environment conservation in the Danube Delta Biosphere Reserve).

Besides low revenues, the locals have to cope with the absence of basic living conditions as a result of accumulated debts, lack of education, and failure to fit into the job market.

Deep in poverty and few chances to recover are the elderly who live on a small pension; in the same situation are the unemployed who have no income at all. If unable to recover, these groups risk being marginalised by the society they live in (Fig. 5).

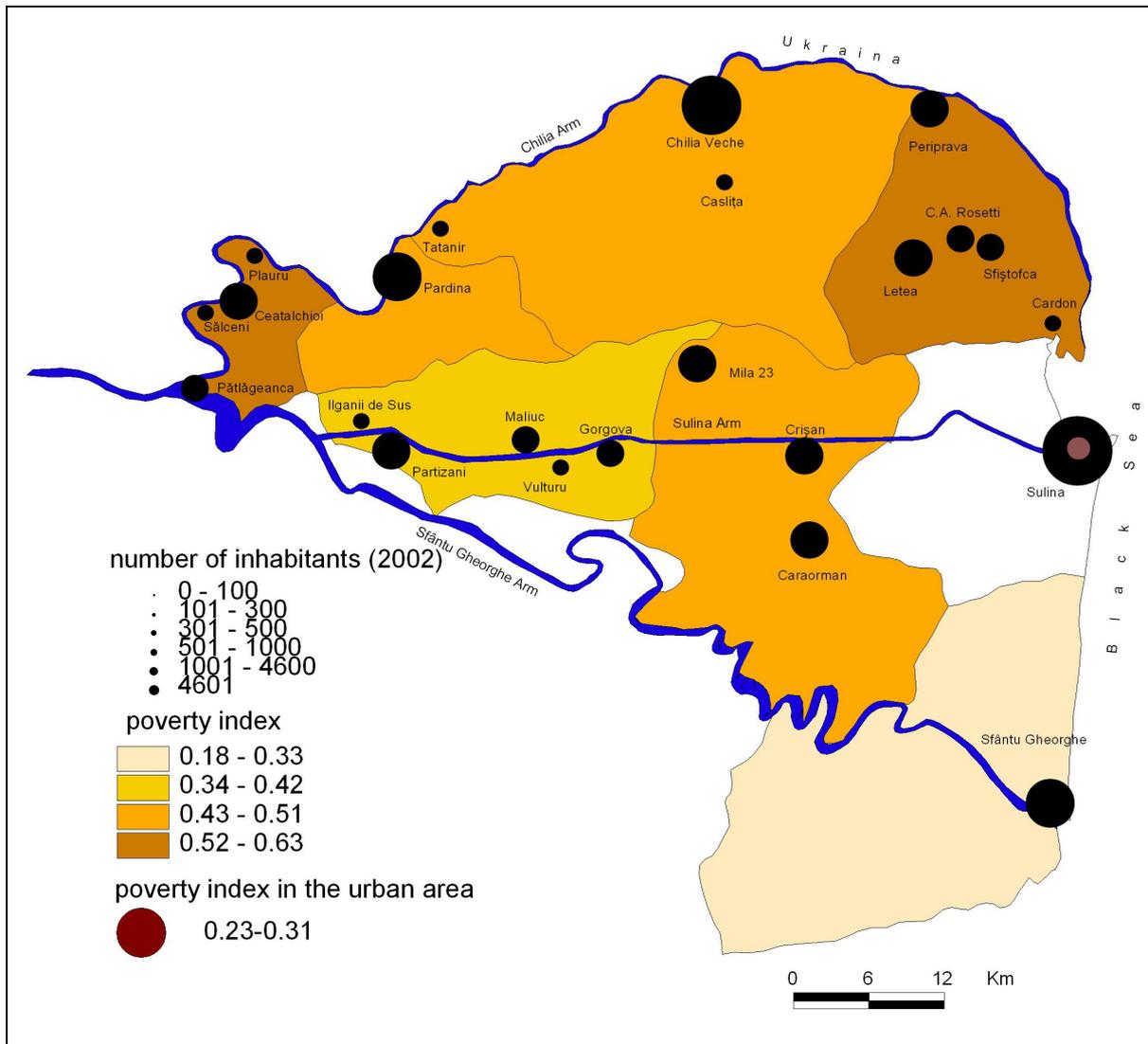


Fig. 5 – Poverty map (2002).

Most inhabitants say that they are poor, very few families acknowledge that they have a decent living standard. The fact is that very many people, especially women, are out of work; on the other hand, the population is ageing. There are two categories of poor people, some facing permanent poverty, others temporary poverty, the latter having temporarily lost their jobs. The majority perceive themselves as having been pauperised, victims of the economy of transition, and more recently victims of concessions, a process that curtailed even more their fishing rights. Very few are optimistic about coming out of this crisis in the near future.

The depleted living standard and a fall in the Delta population's incomes, in general and of fishermen, in particular started being felt after the 1990s, when the "Piscicola" Company (which owned

fish-farms, the Forest Brigade and Collective Farms) was divided into several private companies, the fishermen being obliged to give up labour contracts and all the benefits ensuing therefrom, becoming licensed physical persons, or employees of private firms. When formerly employed by the “Central” Company, fishermen were given, boats, fishing equipment and tools, benefiting by holiday leaves and technological unemployment status in the cold season, when fishing is impracticable.

The period when fishermen enjoyed better living conditions was from the moment “Piscicola” Company was dismantled to the moment concessions were being introduced. In that period they had no limit to fishing, could sell the catch to the fisheries station and get the best price for it. Once the concessionaires got on the scene, fishermen had either to seek by employment with them, or become licensed physical persons, work on their own and pay taxes to the state, the tax being set in terms of the estimated catch/year. In the new situation, fishermen’s grievances involved the price received/kg fish which was usually half that previously obtained; besides, they had to pay for their fishing utensils, all of which resulted in significantly lower incomes and hence a significantly lower living standard for their families.

THE ROLE OF WOMEN IN SOCIETY

Women’s role in society had not visibly changed. Since fishing was people’s main activity, and it was practiced exclusively by men, women had to run the house “they do the hard work... the husband is absent most of the time and it is the wife who makes the household chores; decisions are usually made by consent, money is kept by the wife: “the husband comes hurriedly, gives the money, gives the fish and asks to eat” (45-year-old woman). Relationships between spouses are governed by the fishermen’s specific life-style: “here men get up at 3.00–4.00 in the morning and go fishing, some to the lake, others to the sea, some are absent from home for 3–4 days, then they return from the lake” (45-year-old fisherman). So the woman is left alone to manage the household, she knows best what is to do “I said to my husband, let’s do some kitchen repair and some house repair, he would answer: it’s not necessary, but after I did what had to be done, he would say: how well it’s done” (68-year-old housewife). Women are increasingly more engaged in rural tourism, they being the ones who cater for the visitors.

Reviewing women’s socio-economic role is imperative in order to eliminate some discriminations of gender and marginalisation, moreover so, as in many cases females form the majority population. Acknowledging women’s role creates a state of social and economic equilibrium, of social cohesion. Although the active female population represents a major component, yet it is far too little part of the Danube Delta’s socio-economic life.

The steps that should be taken in order to halt the locals’ declining living standard implies they are resupntting natural resources to account for economic benefits, yet without unbalancing the ecosystems; the conservation of the local cultural heritage and promotion of tourism. The Administration of the Danube Delta Biosphere Reserve has received funds from the North Investment Bank and the European Bank for Reconstruction and Development in order to improve the inhabitants’ conditions of life, help them open up rural tourist boarding-houses, and practice a pesticide-free agriculture based on the cultivation of medicinal herbs.

In most of the Danube Delta settlements, services to meet the locals’ and the tourists’ demands are missing (e.g. taylor’s, shoemaker’s, hairdresser’s, baker’s, confectioneries and appliances). Shops could be run privately, by small local entrepreneurs, but unfortunately they have neither the expertise nor the funds to embark upon this venture.

SUSTAINABLE DEVELOPMENT OF THE DANUBE DELTA SETTLEMENTS

Opportunities to revitalise the Delta's population would be tourism, the resumption of traditional activities, the improvement of the transport network and of the urban infrastructure in keeping with the norms imposed by a Biosphere Reserve status.

Tourism. A relatively new field of interest in the Danube Delta, tourism has good development chances due to the unique landscape of an amazing wealth and diversity. The area's Biosphere Reserve status is also an asset. Tourism may become an important part of life and a means of emancipation. High tourist potential areas are: Matița-Bogdaproste; Mila 35 Canal – Mila 23 Village; Gorgova-Uzlina; Roșu-Puiu and Sulina-Sfântu Gheorghe, a particular attraction being Sfântu Gheorghe Arm, Sulina Arm, Razim-Sinoie Lakes and Chilia Arm (Figs 6, 7).

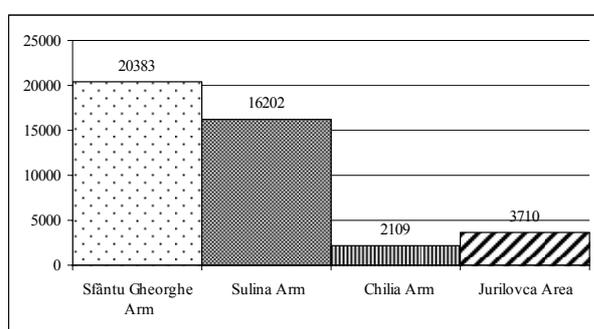


Fig. 6 –Tourist dynamics by tourist area.

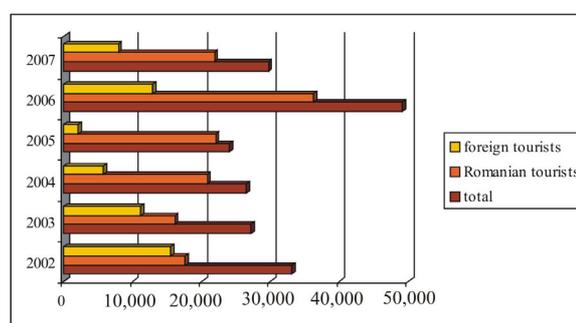


Fig. 7 – Evolution in the number of tourists (2002–2007).

The Delta's treble status has led to the reorganisation of tourism so that natural resources could be used in a sustainable manner. Since the accommodation offer is limited, tourists, particularly foreign tourists, opt for 1–2-day tours on the 3–4 stars “floating hotels”, or seek rooms with the villagers, for whom rural tourism is an important income source. The number of Romanian and foreign tourists kept increasing, thus in 2006 there were 54,624 Romanian and 11,789 foreign visitors. For all that, accommodation units were not used to maximum capacity.

The lack of a sewage network and of household refuse dumping platforms is a major drawback to decent tourist facilities. Many settlements have no drinking water networks, and where they do exist, they are undersized to cope with the great number of summer tourists.

Tourism is viewed as a Delta resource of the future, but it may also damage protected areas if practiced unwisely. Avoiding to happen, means taking into account tourist numbers and behaviours along the routes and in adjacent areas; the presence and functioning of tourist units (hotels, bungalows, and camping-sites) and tourist transport facilities (boats, motor-boats, sailing-boats, and water-buses).

An attraction of sustainable ecological tourism could be the resumption of traditional handicrafts, especially the processing of reed. Reed is a high water purifier and a shelter place, it is also a renewable raw material with multiple uses: the young plant for animal fodder, the mature plant for building roofs, fences, mats and artisanal items. Today, there are few specialists in reed-covered roofs, because it is a costly and difficult craft.

Developing ecotourism in line with the deltaic ecosystems' bearing capacity means promoting a tourist flow monitoring system. Ecotourism is also an important tool for the conservation of nature, being intimately linked to and dependent on nature, provided it is as little as possible modified by man.

Ecotourism in the Danube Delta is one of the main goals of the Danube Delta Biosphere Reserve, namely, to contribute to the education of visitors in the spirit of knowledge and protection of nature. Moreover, since natural resources are not unlimited, they ought to be used in a rational manner if sustainable development is to be secured.

Therefore, the tourism/environment relation should be a stable and lasting one.

Practicing ecological tourism in protected areas of international relevance, such as the Danube Delta, is of paramount importance. The aim is to correlate tourist strategies with nature-protection goals and provide new jobs for the local population to help increase family incomes. With a view to supporting this type of tourism, the ADDBR has opened up special information centres in Tulcea, Sulina and at Crişan, where visitors may find booklets and folders guiding individual tourists, or agency-organised group circuits, as to available boarding-houses, camping-sites, the Delta's ecosystems and its cultural heritage.

TRANSPORT

Access to the means of transport is an indication of the settlements' socio-economic development chances. Direct access and technical amenities facilitate economic activities, enabling people to reach their work-places.

Land transport, which obviously is more limited than water transport, connects Sulina and Sfântu Gheorghe across an earthen dam built in 1992. Another road, running parallel to the dam, connects Tulcea to Chilia Veche, but being unpaved, it is practicable only in fineweather.

However, since water surfaces represent 80–90% of the Delta area, the main transport routes between settlements are on water, usually improperly scheduled.

Settlement isolation is indicated also by the distance between a locality and the nearest settlement. After 1989, regular cruises were reduced by 50%, and traffic between Sulina Town and the settlements on the Letea levee, for exemple, is no longer operational, the route running through Periprava which takes two more hours.

In order to realise how big the access issue is, we quote a local saying that: "Distance should be measured in hours, and not in kilometers. If I have to leave at midday, I must wait until the next morning, when the ship is scheduled and it takes another five hours until it reaches Tulcea" (44-year-old vet).

Delta transport and connections between Tulcea and other towns in the country has several shortcomings:

- most Delta routes are improper for normal traffic;
- difficulties in getting connections between the Delta communes, or between a commune and its component villages, especially when it comes to the transport of school-children, or to solving medical emergencies;
- no transport means among the Delta settlements.

The absence of links among the Delta settlements, on the one hand, and between Tulcea and the Delta localities, on the other, represents a great handicap for the locals to sell their products in the market, a situation affecting their family income. It also has a negative impact on economic activities and tourism, hence on the population's living standard, in general. Promoting Danube Delta tourism implies first and foremost improving land routes, especially from and to the seaside, in order to facilitate tourism between the Black Sea littoral and the Danube Delta; changing the Tulcea airport flights schedule, currently incidental; building a tourist port in Tulcea for agreement boats only; closing down the Sulina, Crişan and Sfântu Gheorghe tourist ports, and last but not least, improving local passenger and freight transport, in order to ease the supply of goods, particularly in winter.

Looking at the urbanistic infrastructure, an imperative task is to have all localities endowed with drinking-water networks; at present, only six settlements (Chilia Veche, Crișan, Maliuc, Pardina, Sfântu Gheorghe and Mila 23) and the town of Sulina are linked to the drinking-water supply system, the others get water from wells, or directly from the Danube and canals. Hence, the risk for disease, because pollution over the past decade has made this water improper for drinking. Apart from the water supply issue, another aspect concerns the collection and evacuation of domestic waste waters. This aspect is of overriding importance for environmental protection, especially of surface and ground waters. In addition, the absence of waste disposal platforms leads to uncontrolled waste dumping, and so to a great risk for water, air and soil to be polluted, the outbreak of disease and epidemics. So far now, no Delta settlement has ecological waste disposal platforms, which is a key issue in protecting the health of people and of the environment.

Summing up, we would say that the Danube Delta's demographic potential and people's living conditions can be improved provided such problems as transport, drinking-water supply, services and household amenities are solved, so that people, especially the better skilled ones, could be tempted to settle down in these places. But, for the time being they are discouraged to attempt it.

BIBLIOGRAPHY

- Băcănaru, I. (1969), *Geografia așezărilor omenești din Delta Dunării în veacurile XV–XIX*, SSG, Comunicări de Geografie, **VII**, pp. 173–181.
- Bugă, D. (1967), *Contribuții la studiul geografiei populației din Delta Dunării*, S.S.N.G, Comunicări de Geografie, vol. **IV**.
- Damian, Nicoleta (2009), *Turismul în Delta Dunării*, Revista Geografică, T. **XVI**, pp. 144–149.
- Dumitrescu, Ana (2002), *The impact of social and economic policies on the local people of the Danube Delta and the necessary measures*, Analele Științifice (Institutul Național de Cercetare Dezvoltare Delta Dunării Tulcea), Edit. Tehnică, București.
- Gâțescu, P. (1996), *The Danube Delta Biosphere Reserve (DDBR). Present state and management*, Revue roumaine de géographie, T. **40**.
- Gâțescu, P., Știucă, R. (editori) (2008), *Delta Dunării – Rezervație a Biosferei*, Edit. CD Press, București.
- Ianoș, I, Popescu, Claudia (1990), *Tipuri funcționale de așezări în Delta Dunării*, Lucrările seminarului geografic „Dimitrie Cantemir” nr. **9**, 1988, Universitatea „Al. I. Cuza”, Iași.
- Mieczkowski, Z. (1995), *Environmental issues of tourism and recreation*, University Press of America, Lanham, Maryland.
- www.ddbra.ro – *Master Plan – Suport pentru dezvoltarea durabilă a Rezervației Biosferei Delta Dunării – județul Tulcea*.

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