Conservation of Traditional Architecture
in the Romaninan Danube Delta

Projekt III WS 2014

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Introduction

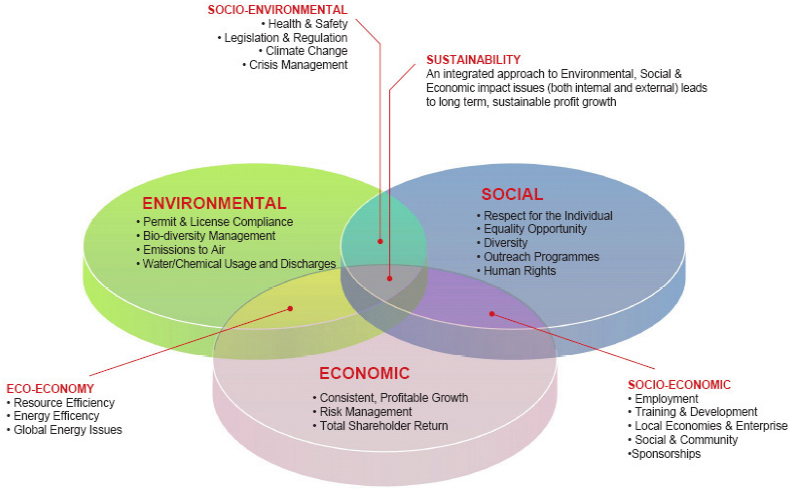
The Romanian Danube Delta is mostly known for its beautiful untouched nature and its incredible wildlife, but also for its decreasing population and the hard life conditions people are exposed to. Daily life seems to be affected by melancholic lethargy, probably caused by unemployment, in most cases and the obvious lack of self-estimation as well as the lack of estimation concerning their living environment. Of course this clear absence of estimation is not helpful to gather for example tourist's attraction in order to lead the region to a positive, sustainable development. In a shrinking region usually people do not just lose this feeling of hope, but also the feeling towards their culture and precious habits. They might lose their culture, if they have even not yet lost it. The municipality of C.A. Rosetti in the north-eastern part of the Romanian Danube Delta, next to Ukraine's border lost since 1990 an enormous amount of its population. Therefore the number of abandoned houses in this area is increasing; urban framework nowadays just shows a lot of open space between habited buildings and electrical towers, which are mostly the only thing left, after having left a site. The ecological standard of construction is the reason why nothings left after having left a house. Traditional houses' construction materials consist usually of natural and local material like clay, reed, straw, sand and wood. But in the last decades, due to several restrictions it became easier and even in some cases cheaper to build houses according to the "western", modern way of construction. Nowadays there are just a few people left who are aware of the traditional culture of construction building. Indeed a sad fact towards this old knowledge concerning ecological standard of constructing. During the last decades people all over the world, but especially in Europe, tried to build their houses as ecological and eco-friendly as possible, like in former times. Within investing an enormous amount of money, companies, networks and institutions try to re-gain this valuable knowledge concerning traditional and natural construction methods. In the meanwhile there is a region where the presence of natural construction method and knowledge is still incredibly, unexpectedly high (in spite of the present trend), but also a region where people are, due to international pressure (globalisation, restrictions of the EU concerning building rules) and decrease of material's price (mostly due to restrictions from the Danube Delta Biosphere Reserve and diverse companies concerning access to land and material), almost forced to build their houses the "classic, european" way.

Introduction

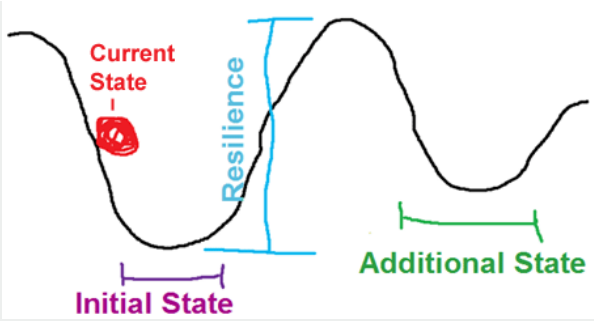
As already mentioned countries all over Europe have re-discovered this disappeared ancient method and partly decided to conserve and re-invent this old culture of construction, which was indeed commonly used in the past centuries before the triumphant success of burnt A.C.C bricks began. Indeed a challenge, especially while bearing in mind that knowledge of traditional building dies with the lack of practice, or rather when artisans do not have the possibility to impart their knowledge to younger generations, an actual important issue in the Romanian Danube Delta. Persons in charge have established different networks all over Europe, in most cases within the framework of the European Union, in order to prevent this culture of building from dying. Objectives mostly concern fighting against the skill shortage (global demand is high, because local old knowledge is not available), which further includes measures dealing with the creation of cross-links between handicraftsmen from the same or different countries to gather experience and interchange knowledge. But measures also concern the formal creation of the possibility to become a professional in adobe brick building. The basic aim of the further described project is therefore, to conserve basically this traditional building culture and the traditional knowledge of handicraft in the municipality of C.A. Rosetti, which includes essential measures: The foundation measure concerning the Sfistofca Art Association, who is supposed to be included in an existing European earthbuilding network and lead the first steps of the organisation work, a further measure is about the implementation of the formation of skilled employees in mudbrick building and the last measure deals with the creation of a concept concerning conservation and transmission of knowledge through generations within the local and international framework and the realisation of the clay n' reed studio . This project should be, as far as possible implemented in a matter of principle according to the endogenous nature of regional development, considered as self-sustaining help. This basically means that the extent of external influence should be as small as possible, in order to respect local conditions and to let the people further along the line carry and lead the expected sustainable development. The first steps of implementation are, as already mentioned, supposed to be led by the Sfistofca Art Association, but the general development of the project through further decades, within its organisation and implementation belongs to the local population of the municipality of C.A. Rosetti itself.

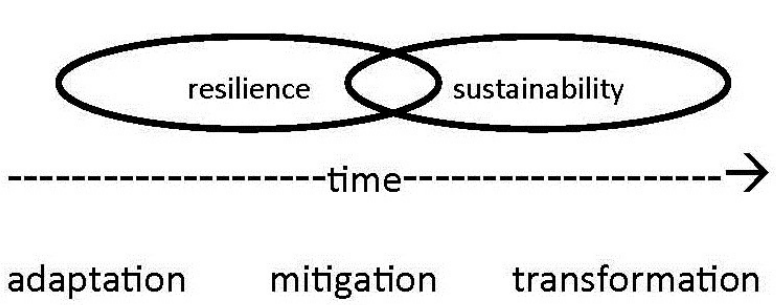
Personal Intention and planning approach

Getting to know this remote region of the Romanian Danube Delta (even for a few days), in which the municipality of C.A.Rosetti is a part of, was personally an incredible, unforgettable experience. The received impressions have definitely increased my personal awareness as a private individual, as well as a prospective planner. Experiencing a region, where enormous poverty, total remoteness and shrinking population on high level are combined would probably never be considered as a European region. But it actually is still in Europe, even in the European Union. As a young future spatial planner of a western country it is indeed rare to get confronted with such spatial conditions in a region. But this is exactly the reason why I choose this course for my master project. Content and implementation of planning are changing with the character of its region. Sustainability and especially resilience have always been a main part of my personal planning approach. By dealing with such spatial conditions we, in my personal opinion, have to start the discussion of a sustainable, resilient development (which has to be the main focus unquestionably) from a different point, not from a lower, less ambitious one, but indeed from a different. Finding and defining this first point or rather vision for the area, was probably the first step referring to the individual projects. Becoming aware of the individual character of this region, integrate this gained thought into personal thoughts concerning personal planning aspects and finally "creating" an idea, subsequently, describes in short my personal process during the last months. I definitely cannot remember the moment when the idea of leading a project to the direction of the conserving traditional Architecture in the Delta. This idea was maybe caused by my architectural background; the first semester of the year 2014 I spent in the Lorraine, north-eastern France studying Architecture, besides my circle of friends partly consists of architects. This might have been an influence. I personally do not worship the beauty of building structures and its surface a lot, in my opinion things on surface area cannot live without deeper thoughts in the subsurface area. Architecture is getting interesting at that time it has gained a means to an end. An end that tries to help people "improving" their lives in a subtle manner, giving them simple hope in order to deal with live conditions and letting them know that they are not forgotten in this connected, globalised world, but without telling them in an arrogant, superficial and ignorant way how to change their way of living, this could be such an sustainable end.



The objective is to mix up skills and create something exciting new, where everyone, more or less educated, more or less prosperous, can profit in a deep sustainable way. The implementation of the project concerning the conservation of traditional architecture finds itself in the sustainability's matrix intermediate field between "Social" and "Economic", as well as in the intermediate field of "Socio-environmental", basically due to its thematic orientation and implementation (which will be described in a more detailed way in the following chapters). My personal approach concerning the combination of sustainability and resilience is mainly marked by the idea of sensitizing one's mind (my own included) during a process in a soft and slow manner, which allows participants to adapt themselves individually, an approach which is additionally supposed to be combined with the idea of the resilient nature of development. A resilient development means basically in short not to re-program the hardware of a village/ municipality/ region or even state, but to re-program it's software. The objective here is not to re-program people's minds or the regions subtle rules of living and being, but to help them in adapting themselves in times of change and crisis and to focus on something new. The concept of resilience is based on the thought that the current state of a region, project or even country (etc.) finds itself on the beginning of an intense crisis, where the whole system gets disturbed. Finding a new, better quick solution than the former one (from getting out of a crisis) with adapting, re-programming the system is the main aim of the theory of resilience. "Resilience is the ability of a system to return to its initial state after a disturbance" (e-education.edu, 2014).





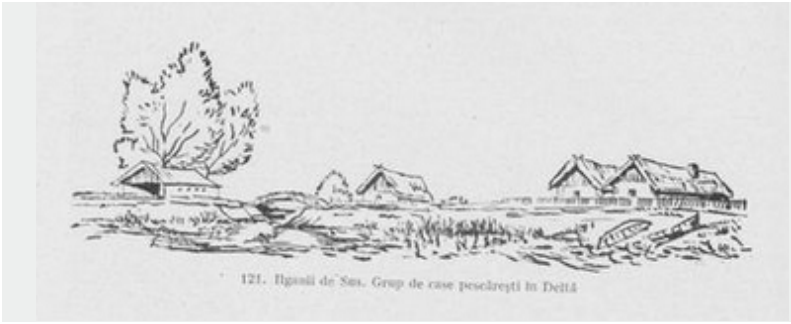
The theories of resilience and sustainability are naturally related to each other. Both are essentials parts of an integrated system and should not be able to exist without each other. One addresses in short-term responses to disturbances and the other addresses holistic management for long term stability. For example, resilience is the ability to bounce back quickly from an extreme weather event by re-establishing food production and distribution, hopefully with improvements so that such events will do less harm in the future, while sustainability is the long term challenge to slow the rate of climate change so that extreme weather events won't continue to increase dramatically in frequency and intensity (learn.uvm.edu, 2014).

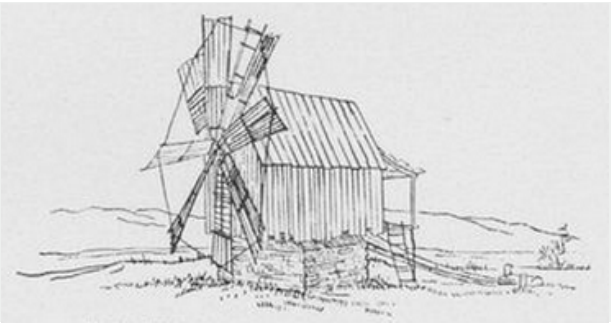
Danube Region Strategy

The Danube region strategy of the European Union, EUSDR, was basically founded on the ground of initiatives from Austrian and Romanian institutions, in first instance to find a common base regarding waterways and mobility. Finally Stakeholders from these countries considered the whole Danube river basin and its countries as an important transnational region that deserves to be protected, with its people and its ecological, economical and administrational systems (cf. Puchinger, 2014). The Danube region strategy does not only consist of countries being crossed by the Danube river, all countries belonging to the river basin area, beginning from the Black forest in south-eastern Germany ending at the Black Sea, participate in this European, macro regional strategy. The following figure shows all countries participating in this strategy. Following EU-member states a part of the concept: Austria, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Romania, Slovakia and Slovenia. Additionally it was also possible for non-EU member states to participate in this strategy: Bosnia & Hercegovina, Republic of Moldavia, Montenegro, Serbia and the Ukraine. According to Mr. Puchinger (2014), the main and essential aspect in implementing such a strategy in this transnational region was to strengthen institutional culture & society, especially concerning their institutional memory and further actions. He pointed out that the aim of macro regional strategies in the framework of the European Union is primarily not to implement a high number of projects, but to encourage people in administrations behind possible projects, with organising administrative reforms for example. These employees would probably decide about funding a project or not in the framework of the structural funds of the European Union, for example. Mainly to exchange knowledge pertaining to administrational processes of EU-funding and organisation it is indeed an issue to help particularly new member states in different situations (Puchinger, 2014). The strategy is supposed to build a framework for further transnational projects and initiatives. But according to him the precedent actions in a country concerning transnational cooperation result from a sustainable top-down process, in order to assure the partly necessary administrative reforms. Generally the Danube Region Strategy addresses a wide range of issues, which are divided into 4 pillars and 11 priority areas. The present project pertaining to the conservation of traditional architecture in the Romanian Danube Delta can be addressed to the blue, as well as to the pink pillar, to be more precise concerning priority PA 05 “Culture and Tourism”, PA 07 “Knowledge society” and priority PA 09 “People and Skills”. But this project relation does not mean its direct implementation within the framework of the EUSDR.

Traditional Architecture in the Romanian Danube Delta

By taking a walk through the rural villages of the sabulous veldts of the Rumanian Danube Delta, nature itself is unmistakeably the essential element and distinctive property in this region. But the Rumanian part of the Danube Delta is not only known for its famous various flora and fauna, but also for a region where scattered houses of the rural population seem to be incomparably closer to nature than every other natural based building structure in Europe. Although this profound link to nature does not seem to find his path beyond the surface, as an author from the Igloo's magazine (2008) pointed out: The lively colours they are painted in and their small decorative technical innovations seem to reflect the need to extract these happy and revealing accidents from the homogeneity of nature, to demarcate, visually and aesthetically, the territory of man from that of the elements. In this region an huge amount of scattered buildings can be found, because of the mostly comprehensive continuing population decrease during the last decades in the region (especially concerning the north-eastern part of the Dobruja, next to the Ukrainian border, where the municipality of C.A. Rosetti belongs to) and subsequently occurred abandonment and following decay of houses; proximity to nature because of the nearly area-wide use of local, natural material in terms of house construction during the last decades and centuries.



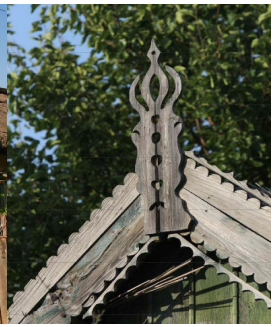


Surface area – Artistic aspects and spatial condition

According to the above mentioned citation from the Igloo's magazine and to personal observation of the author, houses in the municipality of C.A. Rosetti are, due to the diverse cultural background of the local population in the Romanian Danube Delta, known for their bright colours of buildings faces, a correspondent element to the appearance of the landscape. Within this cultural framework depending on the local ethnic majority, some houses in particular parts of the Dobruja were constructed based on the Ukrainian model, others were constructed mostly based on the Russian model, which can actually just be distinguished by having a very close look at specific architecture details concerning facades, beak or type of roof. A main aspect in the characterisation of the traditional, in most cases, fishermen's houses is the construction method (will be described in a detailed manner in following sub-chapter) and the used material therefor. The local found construction material consists usually of clay (adobe bricks and facades plaster for walls), reed (cover for roof and part of adobe brick), wood (if available: timber frames and beaks) and diverse organic material like straw, dung or even sand.

Another facet of architecture in this rural landscape is the fine detail artistic work concerning wooden beaks, maybe fabricated that carefully and dignified due to the rareness of the material. According to Parau (1996) beaks are depending on the cultural background of the inhabitants either equipped with avimorphic motifs and affronted ponies (Romanian houses from the Razelm lake shore), with lyralike motifs (especially Slavic population from the Razelm lake shore or from Sf. Gheorghe), or with stylized phytomorphic motifs represented in the shape of beams (localities from the Delta). Roofs' shape in this rural area can be in most cases identified as simple saddle roofs, or as hip roofs made of reed.



The more beneficial implementation of artificial handicraft on the Danube Delta's traditional houses is the porch, so called "prispa", which is very often directly related to these artificial wooden elements of the roofs beaks, in a visual as well as in a technical way. Parau (1996) marked that these "prispas" either in a lengthwise side of the building or on its short side show not just an esthetical valence, but also beneficial aspects. Protecting the sensitive walls made of clay from heavy rain and the people from the heat during summer, the porch emphasizes the planes harmony (cf. ibidem.). An element especially found at Romanian, Lippovan (Ukrainian) and Slavic houses in the Delta sometimes coming from a three-slope roof raised to the level of the stone socle, having underneath the entry to the cellar, lending volume to the building (cf. ibidem.).

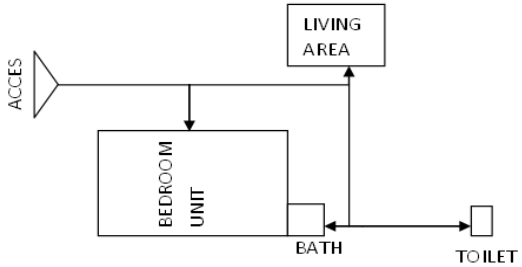


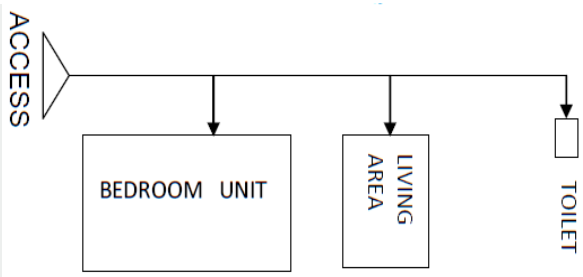

Because of using these materials, houses in this region can be considered as buildings with a high ecological standard. Thus after having left a site, the ground takes back every former built structure, which means that nothing stays behind after some decades of rotting. A high number of houses has been left during the last decades in this area (more about demographic aspect in the essential report, author B. Gugerell). Sfistofca itself for example, lost more than half of its population during the past years. On basis of this demographic development, a high amount of abundant houses and empty sites can be found in the municipality of C.A. Rosetti. The only things left are in most cases electrical towers.





An apparently important principle of the houses' characterisation in the Rumanian Danube Delta is the one-storey building method (cf. Voica 2014), additionally, buildings in the Rumanian Danube Delta feature a particular arrangement of housing space, which is considered as a simple module- structure (Ivanov 2010: 14). The author points out that basically the traditional house and the main functions were scattered in the land because of hygiene reasons, primarily because of the absence of sewage network in such remote areas; 84% of Rumanian villagers have no sewage grid, 85% have their toilet in the backyard and 91% are not connected to natural gas heating grid.





The division of living space into 3 basic functions represents a possible interpretation of the above mentioned figures: The night - living area, kitchen and bathroom, which are in most cases completely separated from each other in the plot in order of expressiveness and intimacy positioned relative to the street. The night area is usually located near the primary access perpendicular to the street (ibidem.). Kitchens as well as living areas are mainly located in the background, toilets way behind in the back of the yard, whereas the bathroom normally is located adjacent to the living area and kitchen.

Subsurface area – Material and Construction methods

One of the remarkable characterisation of buildings in the Rumanian Danube Delta is the previous and present way of constructing, as well as the used material. Primarily roofs are usually made of crosswise cutted reed sticks, which need to be renewed every 15 to 20 years.

This plant is the most abundant natural resource available in the region, due to the permanent presence of water, which encourages luxurious growth. Harvesting can be done mechanised as well as in a manual way (cf. Ivanov, 2010: 22). Nowadays the access to reed is highly restricted. Since ecological way of constructing houses became famous in Europe, natural material is of course subsequently on a high demand. Against the background that the Danube Delta is one of the richest regions in the world regarding its surface where reed is growing, companies of course began to invest and rent fields for decades (cf. Voica 2014b) in order to harvest and sell the material to western and especially northern European countries. Furthermore people used to use reed to build fences or as organic material in the different clay mixtures. As Ivanov (2010: 22) pointed out that, "like no other natural resource, reed forms part of the ecology and economy of the Danube delta - as important habitat and natural clarification plant on the one hand and as a versatile raw material on the other, fact that is well reflected in the traditional architecture." In general reed or rather thatch has been used as a roof cladding material for many centuries, according to CSIR (1998: 2). It creates an aesthetically pleasing end result, well adapted to the natural environment, and its popularity has not diminished over time. Thatching is a craft traditionally handed down from father to son; consequently relatively little documented information exists (ibidem.), which is also the current issue in the Romanian Danube Delta. Clay and straw are used for building clay-bricks as well as for the facade. Straw additionally is also very often part of reed fences or even roofs. The unburnt clay and straw brick locally called "Chiprici" in this region consists usually of clay and organic material (very often straw) and is supposed to be burned in the sun for about 30 to 60 hours (ibidem.: 19). The second traditional way of using these materials is the mixture of a facades plaster, the so called "Ciamur". Clay and sand is gathered from a moderate greasy soil, mixed together either water and straw until it has achieved a decent plasticity, after which it is either put into a mold and dried or used on site as a "Ciamur", which is about 5 cm thick (ibidem.: 19).





Based on the assumption that loam in the Romanian Danube Delta arises basically by the reason of stream sediments (and before because of rocks' alteration) it consists of fine sand, coarse clay and clay, which is the basic annectent element (cf. IG Lehm, 2014). In general clay provides multiple advantages: it regulates air humidity, economises, energy, building material and cost of carriage, self-construction is easier, the material is re-usable, it accumulates heath and it protects from irradiation. According to Ivanov (2014: 3) another important advantage of using clay bricks instead of usual burnt A.C.C bricks is the lower degree of energy within the fabrication process, clay bricks "need only a dry and hot environment of hot summer days". The production of a clay brick does not depend on transportation hazards, the local or even global economic situation or the availability of fuel and electricity (cf. ibidem.). He points out that walls and floors made of clay have high thermal mass, they are capable of storing heat and releasing it during the night due to a property known as thermal lag. Furthermore the walls have the ability to "breathe", which means actually that they allow moisture to pass through and it has a high degree of recyclability. The disadvantages are for example that clay is a non-standardised construction material, it disappears during the drying-out process and additionally clay is not water-resistant, "it must be sheltered against rain and frost, especially in its wet state or else it's integrity is compromised" (ibidem.: 5) and it requires frequent maintenance, whereas it is simple and affordable (cf. ibidem.). Furthermore it needs a lot of working time to fabricate enough adobe-bricks in order to build one house, according to Ivanov (2014).




Wood is rarely available, because of the absence of forest in the region. Ivanov (2010: 21) illustrated that the only forests with a considerable size are protected areas. Therefore wood, or better unfinished tree trunks (found in nature) is sometimes sporadically used for timber frames (cf. ibidem.: 19). Besides these materials, people also used to work with sand, the most visible element in this region, which is basically used as mortar and for mixing cement on site. But sand itself as main part of the soil is also forced to be an ingredient of "Chiprici". Within the framework of using almost exclusively natural material, there is indeed low polluting pressure to the environment. Architect Ileana Mavrodin from Arhiterra points out that a more widespread use can reduce environmental damage because their construction and upkeep demands low energy consumption. Additionally houses built from clay or cob – a mixture of clay, water, sand, straw and other natural materials – are cheap and easy to build. "Most of the construction materials can be found on site," says architect Ileana Mavrodin. "From digging the foundation, we get the earth needed for the walls, and the vegetal soil is used for the roof." (cf. Ipsnews, 2014).

Legislation of earth building in the EU

Due to several restrictions and rules from the European Union, as well as from the Danube Delta Biosphere Reserve people are nowadays supposed to build their houses without using non-local material (cf. Voica, 2014b), which is indeed a challenge, facing restrictions concerning the access to reed and high prices to build a traditional house. Due to these building standards using for example cement or iron sheet is forbidden (cf. ibidem.). One of the oldest building regulations written in form concerning Clay-buildings in Germany and Austria was decreed in 1760 as baronial forestry regulation. Yonder document promoted basically certain fireproofed construction material, after the interdiction of using wood as such material, without even mentioning the simple word clay or loam in order to avoid people's horror (cf. Schneider/ Schwimann/ Bruckner, 1999: 198). Basic ratifying attempts in the last century have been discouraged under the title of "Lehm-bauordnung" in 1944 in Germany and concerned essential regulations for earth constructions. This marked the first attempt to detail rules and thoroughly document building techniques using earth based materials. In 1951 the compendium was included in the German DIN 18951, as a technical stipulation for construction works. After these initiatives until 1956, other norms and regulation projects were elaborated, but were not applied. All pro earth building initiatives suffered in 1971 a saddleback, all the regulations were decreed as obsolete, as well as uneconomic and were retreated (cf. Ivanov, 2014: 17). After an intervention made by the Interior Minister of the federal German state Hesse in 1982, and after the recent decree of the executive of the same land, these are still valid for approving earth constructions in the absence of technical regulations so that the utilizing mode explained in the old regulations won't have to be checked for every singular case (ibidem.). Some years ago the Earth Architecture Association in Germany, "Dachverdand Lehm", edited an approved technical compendium respective constructions in earth building since 1998, the rules having recommendation character and being used as such in 11 federal states in Germany (cf. ibidem.).

Conservation of traditional Architecture in the Romanian Danube Delta – Project description

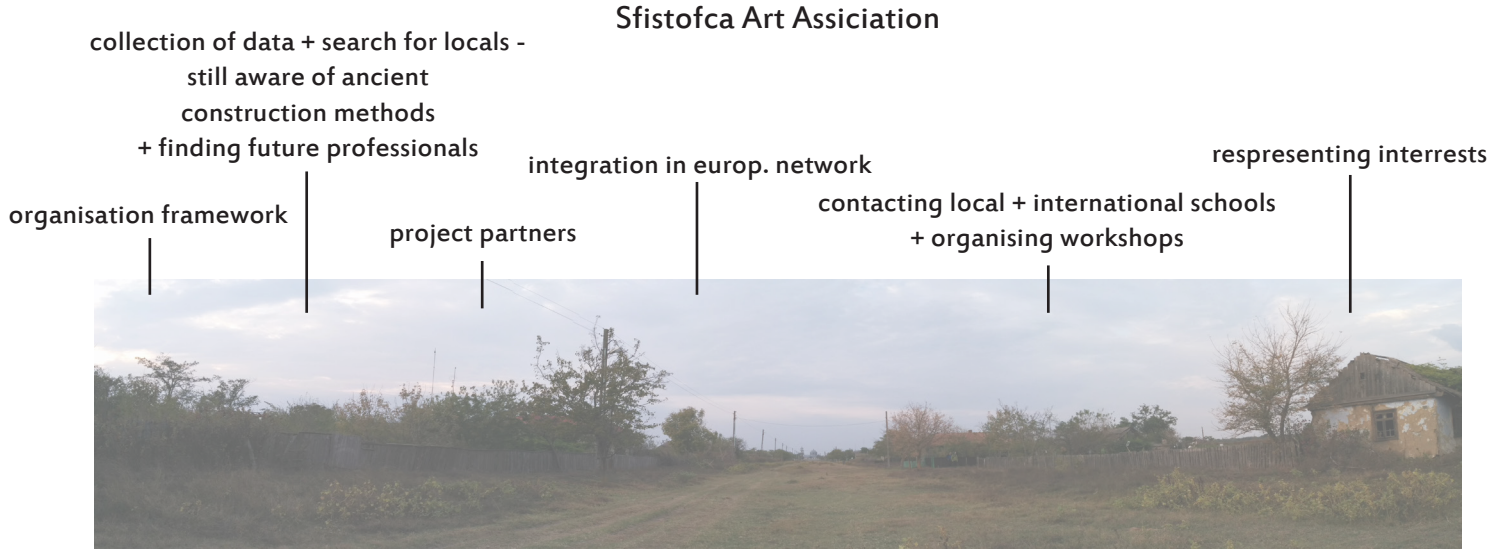
The project is in general based on four pillars, respectively actions areas or steps to gain a sustainable resilient development in the municipality of C.A. Rosetti in terms of the project Conservation of traditional Architecture in the Romanian Danube Delta. These essential aspects mean invisible as well as visible measures. Consisting of three rather conceptual parts and one part which is supposed to be implemented physically. The three conceptual pillars concern the Sfistofca Art Association and its strategy, the creation of the possibility to be a professional in earth building and the transmission of traditional constructing knowledge and ancient handicraft within its cross-generation aspect, compared to the fourth pillar concerning the physical realisation of the clay n' reed studio. Those pillars are of course strongly related to each other and do have depending on the respective measures bigger and smaller overlaps, regarding their intensity and importance.

Sfistofca Art Assiciation

Skilled employee in mudbrick building

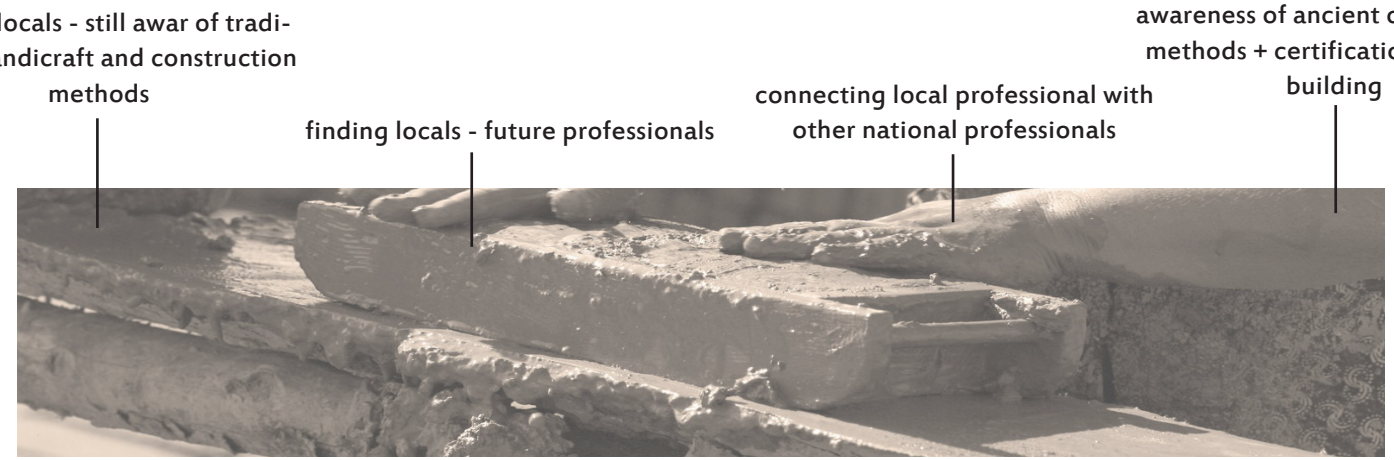
Transmission of traditional knowledge and handicraft

Implementation of a Clay n' reed studio



The first and principle steps of this whole project intervention are supposed to be guided by the Sfistofca Art Association, considered as Lead-partner, who already settled down in the region and built the essential framework (knowing the region and the people) for further acts. The principle aim of this pillar is, as already mentioned in the chapter's introduction, the formal integration in an already existing European earth building network, in order to enlarge the necessary essential framework for further steps respective the other project's action areas. This first pillar concerns on the one hand the formal foundation of a sector within the Sfistofca Art Association aiming at the conservation of traditional and ecological building culture, which is basically supposed to be defined in the association's constitutions in order to assure the principle of the project, especially respective possible project partners. Furthermore the integration in an existing European network which aims at conserving traditions of building culture, to be precise concerning clay and reed building culture should take place within this pillar for the main purpose of exchanging specialised knowledge and learning from other's associations. The Sfistofca Art Association is in general supposed to act as liaison agency between the local population, perspective stakeholders (inhabitants) of the municipality of C.A. Rossetti and the superior European network, especially in order to gain attention concerning local clay constructions, to uncover the region and make it visible concerning traditional, ecological architecture and construction methods. But the target is also to represent interests of local population concerning access to local resources adverse land proprietors in the region. A possible European network could be the Europäische Bildungsstätte für Lehmbau (European educational establishment in mudbrick building), which has established an open network with its own database concerning earth buildings (cartoterra.net) and its initiators and associations behind. The organisation happened already to be contacted in the framework of an event in Tulln/ Donau in November 2014. The main objectives of this organisation are indirectly identical with the objectives of the present project in the Romanian Danube Delta. The Europäische Bildungsstätte für Lehmbau (European educational establishment in mudbrick building) focuses basically on the exchange of lecturers in order to improve the quality in basic and further education. Additionally this organisation proposes possibilities in further education concerning loam rendering and design. Within the framework of this network many projects have already been launched and were partly funded by the European Union, a high degree of experience is therefore available (also concerning process of project implementation within the EU).Parallel first steps of the work of the Sfistofca Art Association would probably concern the collection of data, houses made of local, traditional material and the search for locals who are still aware of respective ancient construction methods.

Skilled employee in mudbrick building



This pillar concerns the creation of the possibility for the local population to learn and to pass the trade of traditional house construction within the framework of this international network, organised by the Sfistofca Art Association. A main European problem of building activity based on clay is the lack of people who are still aware of this construction and fabrication methods and also the lack of people who are officially certificated as skilled employees in mudbrick building. Especially in less developed countries and regions, like the Romanian Danube Delta, specialists sometimes don't know about the architectural good of using local, natural material. Courses can be organised within the framework of the European earth building network, which focusses on conserving and transmitting this old good. On the one hand unemployed locals can be addressed here in order to create material value in the region and on the other hand brick layer trainees all over Romania can be addressed to learn (in further and best case from locals of the municipality of C.A. Rosetti) how to use loam and reed for building structures.

Transmission of traditional knowledge and handicraft

finding respective locals to pass knowledge to younger geeration

contacting local + international schools + organising workshops

contacting universities or student associations for exchange

exchange with international trainees in bricklayer

Within measures concerning the pillar respective transmission of traditional knowledge and handicraft in architectural construction methods, on the one hand minors from the municipality of C.A. Rossetti are supposed to learn how to work with natural, local construction material in workshops at school and on the other hand a summer school for international students or children are supposed to be invited to get to know the method of working with such materials. But this pillar also concerns the integration of national and international trainee bricklayer, which is of course related to the pillar concerning the creation of the possibility to be a professional in earth building. Depending on the personal contacts of the Sfistofca Art Association's stakeholders, children and young adults can be involved on the international level of transmitting ancient knowledge. Implementing measures could basically concern the invention of for example summer schools for students of Architecture (national and international) or other related studies or even children who would like to pass some weeks during the summer in the Delta, small workshops for local kids where little ones learn from the old. A main aspect in transmitting knowledge to the young local generation is the cross generational aspect. The main aim here is to avoid misunderstandings on a long term scale between elder and younger inhabitants and to drift apart due to the change of time. An important contact regarding the exchange of students is the existing contact to a Romanian professor at the University of Architecture of Bucharest.

Implementation of a Clay n‘ reed studio

This pillar concerns the construction of a little factory, where adobe bricks and clay plaster should be produced and where daily practical work should take place in the village of Periprava (due to better conditions for fabrication of adobe bricks and clay). The building is supposed to be constructed with the creative help of students of the architectural university of Bucharest, led by Mr. Marius Voica. A first step within this action area would be a built implementation of a shelter, the further step after some year of practicing could concerne the construction of a real studio-house, as Marius Voica proposed. Due to its richness in loam earth, Periprava would be choosen as location for the little atelier, mainly in order to avoid transportation costs.

References

CSIR (1998): A Guide to good Thatching Practice, Published by the Division of Building and Construction Technlogy, Pretoria, 1998.
Earthbuilding (2014): Europäische Bildungsstätte für Lehmbau, http://www.earthbuilding.eu/, 21.11.2014.
Gheorghu, Ad., Stanculescu, Fl., Stahl, P., Petrescu, P. (1972): Arhitectura Populara Romineasca Dobrogea.
IG Lehm (2014): http://www.iglehm.ch/?screen=baustoff, 20.11.2014.
Igloo Magazine (2008): Traditional Houses from the Danube Delta, 22.10.2014.
IpsNews (2014): http://www.ipsnews.net/2008/01/romania-not-ready-to-live-green/, 22.10.2014.
Ivanov, D., (2010): Danube Delta Ecological Restructuring of Traditional Houses and New Designs for Ecological Buildings, www.breiling.org/lect/euamende/, 23.10.2014.
Ivanov, D. (2014): http://www.unserboden.at/files/dlt2011_11.pdf, 13.12.2014.
learn.uvm.edu (2014): http://learn.uvm.edu/foodsystemsblog/2012/10/22/resilience-and-sustainability-in-the-food-system/, 12.12.2014.
Master Plan - support for sustainable development in DDBR Tulcea county/ Romania Logical Framework Analyse (LFA), Danube Delta National Institute for Research and Development, 2006.
Parau, S. (1996): Values of the traditional civilisation within the Danube Delta Biosphere reserve remarks on the traditional rural architecture. The Museum of the Danube Delta, Tulcea. http://www.geoecomar.ro/website/publicatii/Nr.1-1996/11.pdf, 14.12.2014.
Puchinger, K. (2014): Interview concerning Danube Region strategy at the Austrian Participation in EU- programmes, 07.11.2014 (Audio is only available in German language).
Sallanz, J. (Hrsg.), (2004) Die Dobrutscha: Ethnische Minderheiten - Kulturlandschaft – Transformationen Ergebnisse eines Geländekurses Institut für Geographie, Uni Potsdam.
Schneider, U., Schwimann, M., Bruckner, H., (1999): Lehmbau für Architekten und Ingenieure. Konstruktion, Baustoffe und Bauverfahren, Prüfungen und Normen, Rechenwerte. Werner-Verlag, Düsseldorf.
Sladonja, B., (2014): Protected Area Management, Agricultural and Biological Sciences, 2012, www.intechopen.com/books/protected-area-management/be-natur-transnational-management-of-natura-2000-sites, 24.10.2014.
Voica, M., (2014a): Presentation - Sfistofca Workshop (26. – 30.09.2014).
Voica, M., (2014b): Conversation with M. Voica, Vienna, 18.12.2014.

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