

# SAFTICA

holistic survey

## Geography

**Safica** is one of the three villages that compose the municipality of **Balotesti**, the other are Dumbraveni and Balotesti. It is situated in the south eastern corner of the Romania Plain, in **Muntenia Region, Ilfov district**, a flat area North to **Bucharest**, very close to its airports (Otopeny and Baneasa). Two small **rivers** flow in southern and northern part of the village: **Cociovalistea** and **Vlasia**. Its **altitude** on the sea level is about 50 meters; its northern **latitude** is 44° 37' 0" and its eastern **longitude** is 26° 4' 0".

The village has a long **shape** that follow the straight road E60 from Bucharest to Ploiesti, so it hasn't a real centre. Its surface is 1,200 ha.

The **climate** there is continental, due to its position on the Romanian Plain, the village's winters can get wind. Winter temperatures often dip below 0°C, sometimes even dropping below -15°C; rarely do temperatures reach -20°C. In summer, the average temperature is approximately 23°C, despite the fact that temperatures many times reach 35°C to 40°C in mid-summer. Although average precipitation and humidity during summer is low, there are infrequent yet heavy and often violent storms. during spring and autumn, average daytime temperatures vary between 17°C to 22°C, and precipitation during this time tends to be higher than in summer, with more frequent yet milder periods of rain.



## Air

Air is one of the most important natural sources for Romania, is necessary for the functioning of the ecosystem and natural habitats. However it is also an active factor in the modification of biotopes and presents the largest potential for pollution.

In this windy and flat area the pollution of the air is caused by the automotive traffic and the heating of houses, but also by the industries all around.



## Food

Saftica hasn't particular food or specialities, different from what Muntenia offer, because the initial attitude for agriculture, disappear in the last year. In that way, inhabitants don't produce what they eat, because they sell their land for a higher and easier profit. The result is that the number of supermarkets, ipermarkets, fast food and restaurants increase esponentially.



# holistic survey

## Flora & Fauna

In general, families have only small animals like chickens, turkeys and dogs,

The animals raised in the area are:

- 23 cattle,
- 225 small cattle and sheeps,
- 11 horses,
- 379 pigs,
- 5000 birds.

In the Northern part of Saftica there is a forest with a multitude of different habitats, that creates the conditions for high level of diversity with regards to flora and fauna, for that reason it is protected. There is allow only cutting tree to regenerate them in other part. The most of them are oaks and maples.



## Housing

### Single house

A typical house where lives a family with two children could be 300 square metre with 500 square metre of courtyard. That type of house has an average of consumption like:

- water: 3500 m<sup>3</sup>/y
- electricity: 5400 kW/y

### Block

In Saftica there are three block with twenty apartments in total.

### “Casa Verde” project

This project want increase the isolation in buildings and install new solar power with statal help.



## Population & family

In Balotesti the population is 7860 inhabitants, with 3011 households and individual homes. Saftica counts around 2000 people grouped in 325 families, that generally are composed by mother, father and two children, often also grandparents live with them.

Most of the people that live here is in work age (35-55).

The period of transition through which Romania has been passing in recent years has been the cause of numerous transformations at a societal level and a deep change in collective mentality. This could not be realised without an improvement in the mass educational system.



## Employment

Most of the people that live in Saftica work outside, like in Bucharest, because there are more job opportunities. The contracts are determinate and people look always for a better position where gain more. In that way they change many jobs, looking only for a higher salary but not for what they will do. The result is that no one is specialized in some activities, but can do everything.

Women usually work in shops and cleaning; men in construction, security and as driver.



## Festivals & Sports

Rural festivals take place on a particular day of a month, the actual date varying from year to year, and they can also be advanced or delayed depending on the progress of the crops. Saffica doesn't have any particular festival, but from this year it will be organized "The Day of the Balotesti Commune", the 5th of May



## Historical buildings

The Northern area of Bucharest is affected by Ceaucescu's systematization programme, so Balotesti consists of stark modern apartment buildings housing people displaced from villages. Systematization was a policy to do away with up to half of the country's villages and move the rural population into larger centers. Approximately eighteen villages had suffered major demolitions by the end of 1989, when the scheme was at once cancelled by the FSN. New buildings are going up all over the country, and those people uprooted are returning to the sites of their villages and starting all over again.



## Churches

In the Southern part of Saftica there is the “Sfanta Troita” Church.



## Schools & Hospitals

Saftica has one kidgarden for children from 1 to 4 years old. The young people that want have a degree move to Bucharest, and often they stay there also to work because of the quantity of job opportunity there.

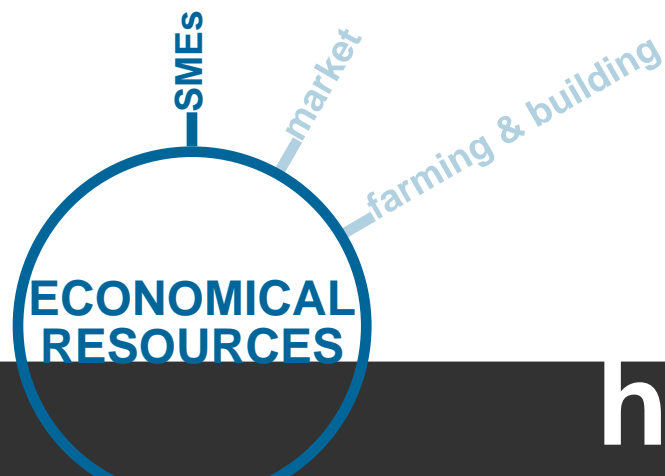
There is any hospital in Saftica, just the Ilfov department's polyclinic, that is 800 square metres and where medical consutations happen and works about 45 people.



## SMEs

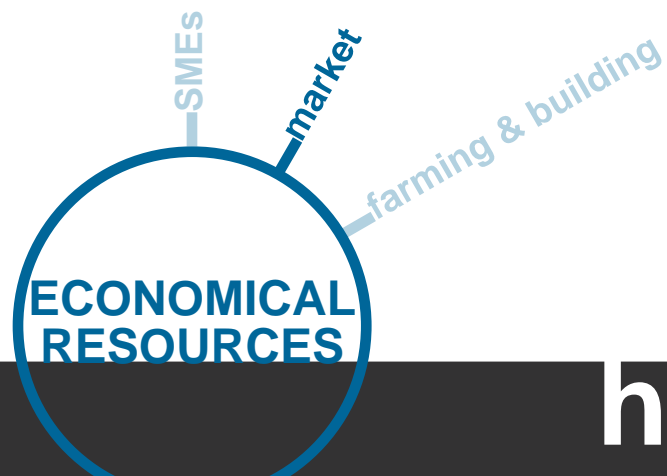
In the area the industries are very small, like handicraft, and some firms with productive activities (plastics and furnitures companies).

Of note is the low number of enterprises with activities in the productive sector, an observation valid also for enterprises with foreign funding.



## Market

One of the most activities in the area is the trade, so many markets can sell every kind of products, from the handicrafts, to food, or accessories for indoor and outdoor, gardening and staff for constructions. In Saftica there are 3 Universal stores, with 8/10 employees.



## Farming & Buildings

Saftica is in very flat area good for cultivation, but in the last year a more profitable use of the land change its condition, so from a farming area it become a building area to construct residential houses, from people that works in Bucharest but love to live in a quiet area. Saftica it is only 18 km far from the city center of the capital and the cost of the life here is less expensive than in Bucharest.

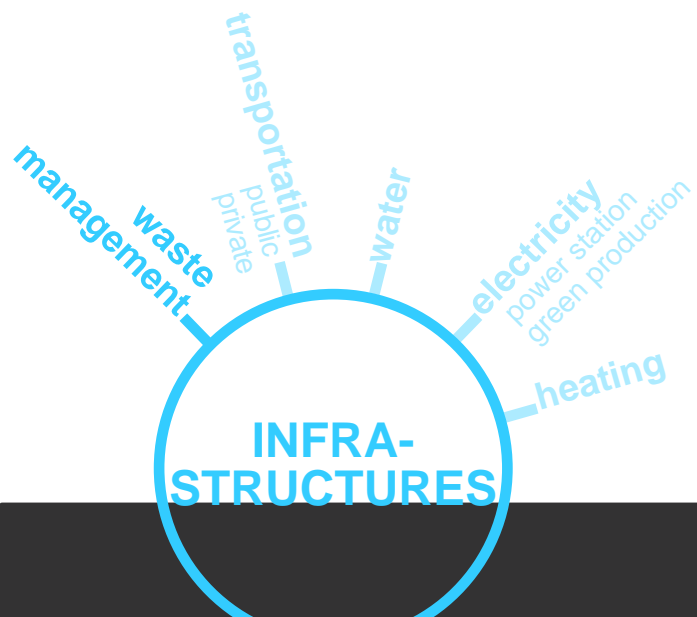
There is 1 resturant and 20 accomodation spaces, small houses that give bed for 40 people. During the boom of building, before the crisis, the land could be sell at 80€/sqare meter. In any case, there has been a dramitic decline in traditional crops in the area.



## Waste management

The SC Compania Romprest service SA has a contract for collecting waste and it is picked up twice a week, based on individual contracts with the population (4 lei/month/person).

Non-hazardous waste, especially that coming from construction and demolition, is collected and deposited separately in landfill.



## Transportation

The main road in Saftica is the E6 that cross it in vertical and it is the only one with asphalts (4 km), the others are with stones (7-8 km). The cars in the main road go fast and for the safety of people that cross the street, four bridge were built, one each km, and the City Hall wants to increase them with two more. The problem related to the bridge is that they are not suitable for old people, handicaps and bikes. However, there is no way to put zebra or traffic light on the E6 because it is a national road with many restriction. The connection with Bucharest is very good, also because in the last years an underground passage was constructed and allows a faster flow. A future project lead to build a city ring road in the North of Saftica, where the forest is, to allow cars to go change direction, because in that moment a driver cannot change sense of direction for many km.

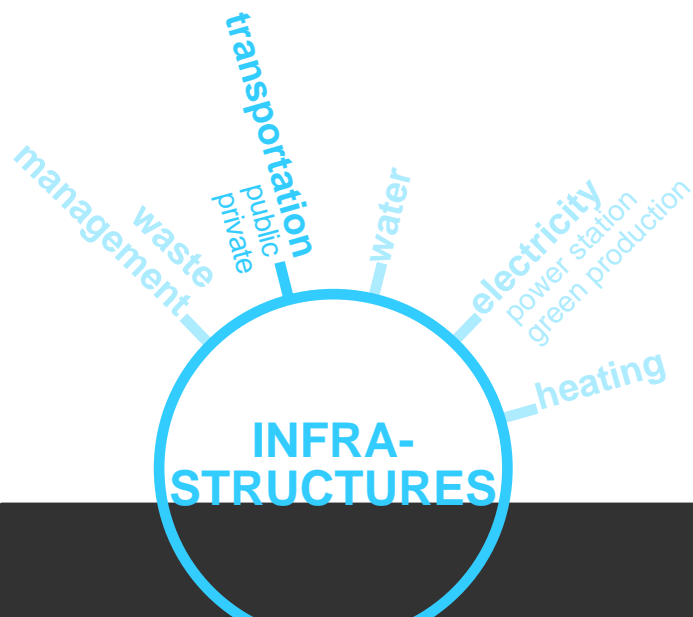
The City Hall wants increase the km of streets with asphalts, but it will be done after the new water system.

### Public

In the area there is not a good public transportation that allows the connection inside the village and outside.

### Private

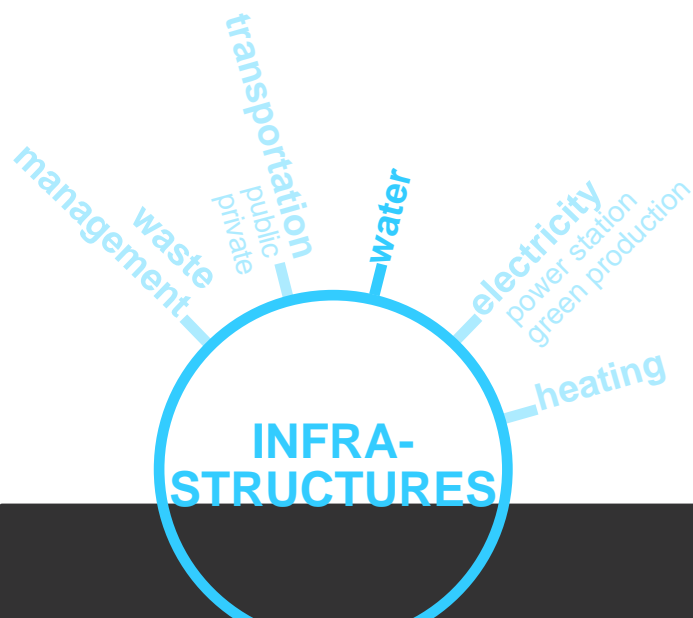
All families have a private car and they use it daily, also to drive children at school, even if there is a private bus that give that service.



## Water

Currently, in Balotesti there is a water supply system owned and operated by the City Hall, that in 2009 supplied around 35.28% of water consumption needs. Customers connected to the existing water supply system get water from public weels placed at crossroads of streets or wells, just few of them are connected with the network for drinking water inside their hoses. The main problems connected with the network of the existent water supply due to the low pressure in pipe and to the lack of water flow. Balontesti has eight deep drillings, four in the old front and four in the new front. In the first one, the electric pumps are working in an intermittent mode, therefore it works only when big flows of water are demanded by the consumers. The drills are old and there are irreversible damage to the filtering columns. The high maintenance costs make the exploitation economically and hydrogeologically unprofitable, so they will be closed in the future. The new front is settled in the area of the Kindergarden, the school and the Balotesti water establishment. Two wells operated in a continuous mode and the other two in intermiltend mode, that work only for large demand of water. Two wells are directly connected to the distribution network and the other two are connected with the water storage tank (500 cubic meters, but 1100 cubic meters are needed) that has a chlorination station and a pumping station (5 electric pumps) to connect the network. The network is long 22.59 km and 5.395 km just in Saftica.

The remaining 64.72% of water is obtained by wells in the shallow aquifer, settled in the couryard of houses or companies. In that way the exploitation is done in a totally unorganized manner, without taking care of health protection norms, bad substances go into the water throught the porous layer as infiltration of pollutants from latrins and saptic tanks. The water is taken manually or mechanically. The users that want the connection with the public grid, around 700, should pay for the connection inside their land. There is no water drainage system to serve the built area, so the waste is discharged in unorganizad way, like on the ground in the shallow lithology, from where it reaches the acquirer, amplifying the phenomenon of depreciation of water resources quality. Inadequate drainage of surface water has to be led to the swamping of land upstream of the road, because it represents a potential source of flooding. A new project is approved and financed partly by EU (7 mil €), the other 15% will be founded by the City Hall.



## Electricity

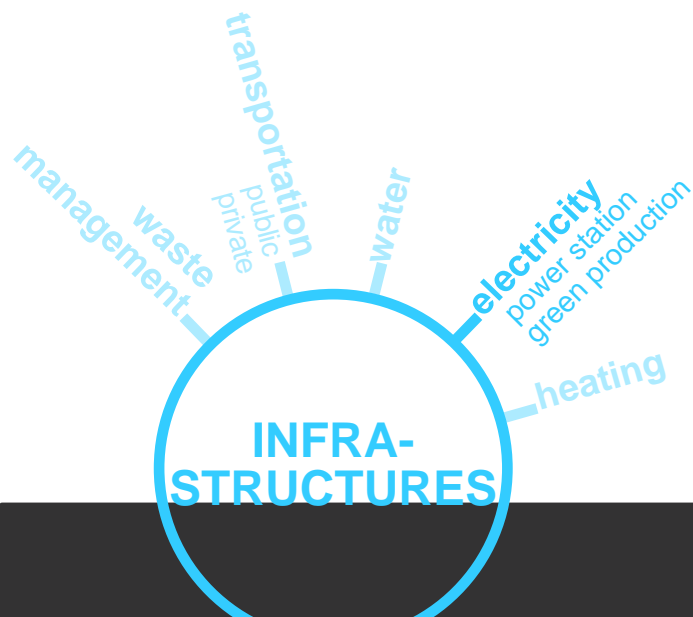
The company that provide electricity is S.C. Electrica Buftea S.A., owned by Electrica Muntenia (Enel), a company which manages energy distribution on a national level. S.C. Electrica Buftea S.A. is a state owned company, subordinated to the Ministry of Economy. The object of activity is distributing and supplying electricity and providing the communications infrastructure which allows the use of performance management in terms of market opening and current competition in these areas. Developments in the legeslitive process for performing the main activities in the electricity sector have led to the regulation, by the National Authority for Energy Regulation (ANRE). The company performs its economic activities as natural monopoly, with the obligation to ensure network access for ll customers, electricity suppliers and producers who request it. It has a national coverage, with regional organization in three areas for distribution and electricity supply: Transilvania Nord (based in Cluj), Transilvaia Sud (Based in Brasov) and Muntenia Nord (based in Ploiesti)

Enel is the biggest energy company in Italy and the second in Europe, listed in 1999 on the Milan stock exchange. The company has more than 80,000 employees worldwide and owns hydroelectric, thermoelectric, nuclear, geothermal, wind and solar plants. Enel was the first utility company in the world to replace traditional meters with modern digital meters, which make possible real-time reading and management of energy consumption. Enel is the biggest investor in the electricity sector in Romania, taking over majority ownership to three of the distribution and electricity supplying companies in the region of Banat, Dobrogea and Muntenia Sud. Currently, operation are carried out by Enel through Enel Energy (530 employees), Enel Energy Muntenia (520 employees), Enel Distribution Dobrogea (1,300 employees) and Enel Distribution Banat (1530 employees), Enel Muntenia (1500 employees).

All area in Saftica has public illumination by big pillars, but when private house ask for electricity they pay for the connection in the private land.

### Power station

The main production of energy is done in large plants of thermal or hydro or nuclear (59,86%) power (CE

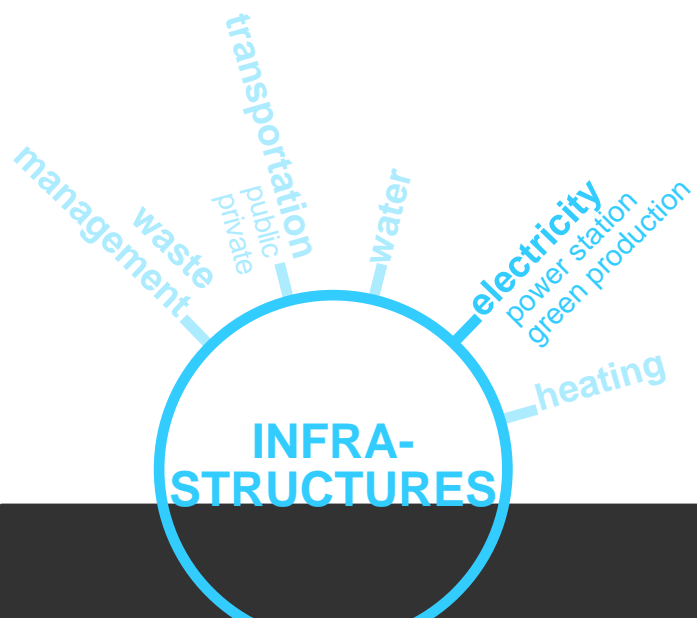


Turceni, CE Craiova, SC Rovinari, SN Nuclearectrica, SC Govora, SC RAAN). Data from 2008 said that the quantity of thermo and nuclear power is about 2 million MWh.

### Green production

Two houses have in their land wind mills and solar panel.

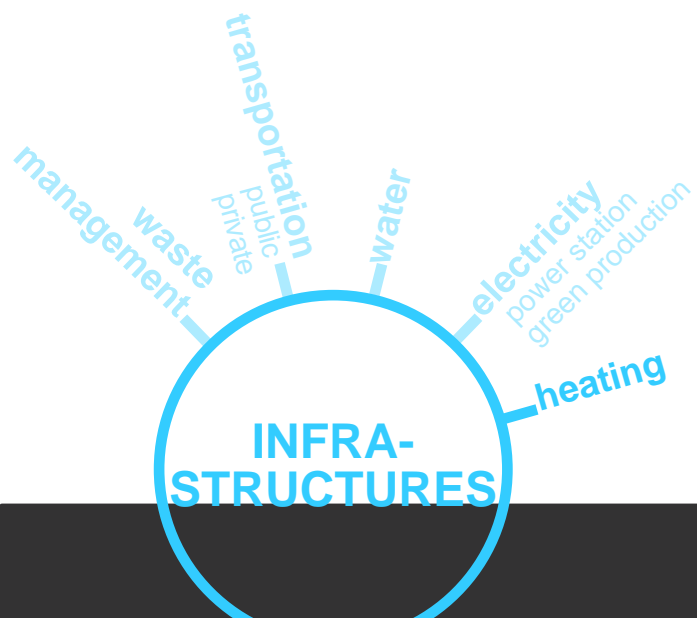
The City Hall want implement a project of a solar station (6,000 square meter) for public use.

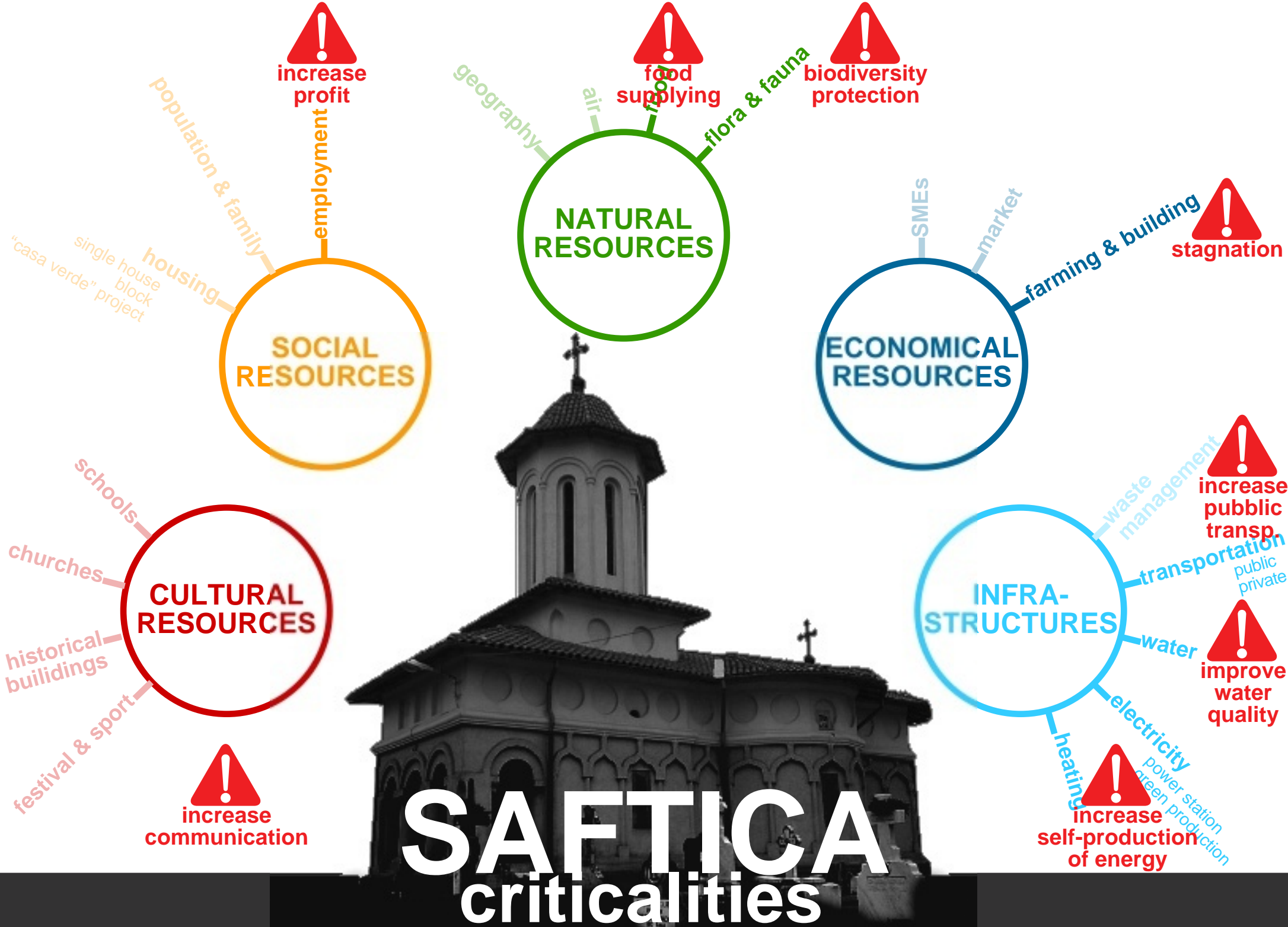


## Heating

The heating system is mainly based on methane for fuel, having combustion a percentage of 75%-90% and provided by S.C. Megaconstruct srl.

Radiators in houses are diffused, but often they let one stove in a room to have at least one hot room in case of black out. The stoves can work by gas, but originally they burn wood, that nowadays it is difficult to find, because the forest in Saftica is under protection and noane can cut trees.





## Food supply and biodiversity protection

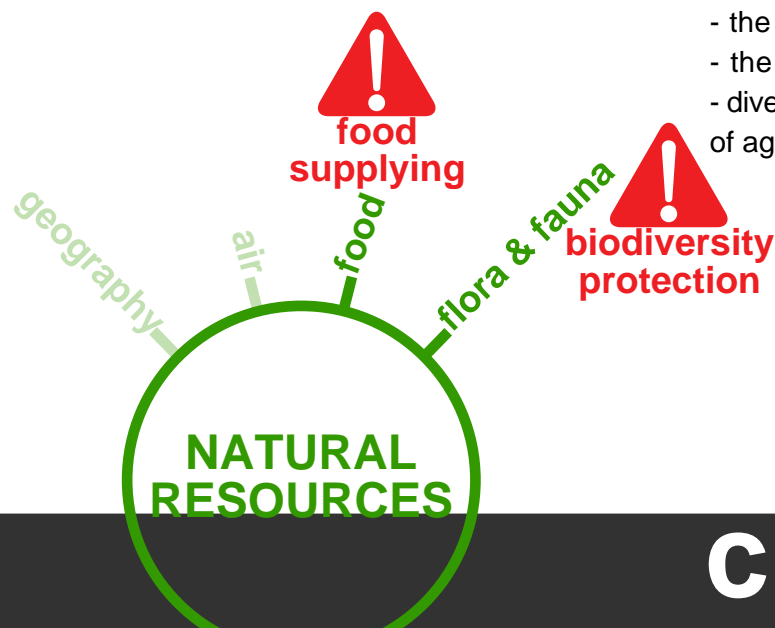
Taking into account the present economical crisis of Romania (and the World) and its difficulties linked with the transition period from past estate economy to free market would be very strenuous to make an accurate forecast about biodiversity conservacy.

Romania needs a multifunctional, competitive agriculture, at the same time complementary to the agriculture of the other EU Member States, as well as main decisions regardin the support to different farming systems under competition (for example food production versus biofuel production, conventional agriculture versus biotechnological agriculture, conventional farming versus organic farming, modern agriculture versus traditioanl agriculture, agriculture on family farms versus agriculture on very large-size frams, semi-subsistence agriculture versus agriculture).

The rural area can carry out its supply, recreation and equilibrium funtions, much desired by the society, only if it remains an attractive and original living space, equipped with: a good infrastructure; a variable agricultural and forestry sector; local conditions favourable to no-agricultural economic activities; an intact environment with a well-cared landscape.

The approach for rural area development is based upon the concept of sustainable rural development, which presupposes the harmonious blending of the agricultural (and forestry) component and the non-agricultural rural economy component, based upon the following principles:

- harmony between the rural economy and the environment;
- the sustainable development programs should have in view a medium and long term time horizon;
- rural area naturalization, by preserving the natural environment mostly intact;
- the anthropized, man-made environment, should be as a close as possible to the natural environment;
- the use of local natural resources, mainly of renewable resources, in the last rural economic activity;
- diversification of the agricultural economy structure through pluriactivity, in the first place by the development of agri-food economy, non-agrucultural economy and services.



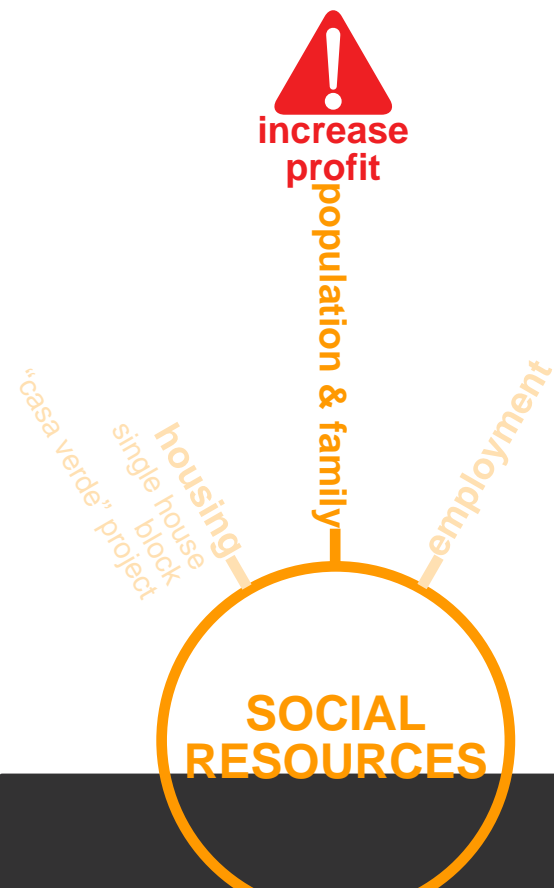
# criticalities

## Increase profit

The unemployment rate recorded in Romania in October 2009 was 7.1%, in comparison with 6.9%, the figure for September, according to the data published by the Romanian National Employment Agency. The unemployment figure increased in October for the 16th month in a row. Such a high number of jobless has not been seen in Romania since April 2004, when almost 670,000 people were looking for work. Romania's economy contracted by 7.5% in 2009, according to Fitch Ratings. This is a more optimistic version of the IMF estimate, which sees Romania's economy shrinking by 8-8.5%. The financial evaluation agency sees Romania's budget deficit amounting to 7% of the GDP in 2009.

Romania's commercial deficit decreased by 61.4% in the first nine months of the year, to 6.93 billion euro from 17.97 billion euro in the same period last year, Romania's National Statistic Institute data reveals. The decrease of commercial deficit was due to a drop of imports to the exports.

Business interests have failed to capture market governance institutions; in spite of benefiting from shady privatization deals and other advantages based on political connections, the new Romanian entrepreneurs were not threatened by sophisticated market governance laws. This argument based on the preferences of business actors is a necessary addition to explanations of institutional reforms that rely on international conditionality or economic crisis.



# criticalities

## Increase communication of cultural aspects

Culture and tourism have a symbiotic relationship that has the potential to make places more attractive and competitive. Romania has long been an important tourist destination, but the rural areas were generally neglected and provision in the mountains was largely restricted to a few key resort and chains of chalets, most prominent in the Bucegi and Fagaras Mountains. Now the benefits of rural tourism (embracing all aspects of leisure appropriate in the countryside) are becoming better understood in the context of diversification and sustainability, with the latter concept approached in terms of maintaining communities and conserving environment (Bramwell and Lane, 1994; Roberts, 1996).

For many regional economies tourism can offer effective solutions to the question of regional competitiveness, Saftica lives very close to Bucharest and could find benefits in that nearness, addressing the creation of a competitive specialisation profile, infrastructure, improvement, sustainability and institutional capacity building. Valorization fo cultural resources is done by tangible (transportation systems, hospitality services, banking,..) and intangible elements (culture, new, different experiences, relation and rest).

For the cultural resources to be successfully combined, the following principles should act as the main guidelines: collaboration, finding the right fit between a community and tourism, making sites and programmes come alive, focusing on authenticity and quality of experience, resource preservation and protection.



# criticalities

## Stagnation of farming and building activities

The effects of a lack of strategy in the agricultural sector over the last 20 years have intensified lately and continue to affect the sector, so 2010 is one of the most difficult years for the sector (C. Stolan, 2010), according to Romania's biggest players in the agricultural sector.

Today 90% of farmers are short on capital: prices of agricultural products are low, subsidies are much fewer, farmers don't have enough money for fertiliser and herbicides. If this summer is droughty, and with the government eliminating the subsidy on electricity for irrigation, 70% of the firms will be heading for bankruptcy. Those are the causes that lead to sell the agricultural fields as area to build, but after a first moment of good earning, the sector stops its income.

Romania's construction industry was the strongest hit in Central Europe, by the global downturn in 2009, having contracted by 15% after the steep growth figures of 33% and 26% in 2007 and 2008 respectively. One of the reasons for the poor performance of Romanian construction last year was that the overall economic deterioration was coupled with a continuous political crisis, which resulted in virtually no progress in infrastructure development, in spite of massive EU funds available. While in the first half of 2010 no improvement on market is done, builders hope that towards the end of the year the new government will launch several large projects, which will eventually be an impulse for the recovery of the entire sector.



# criticalities

## Increase public transportation

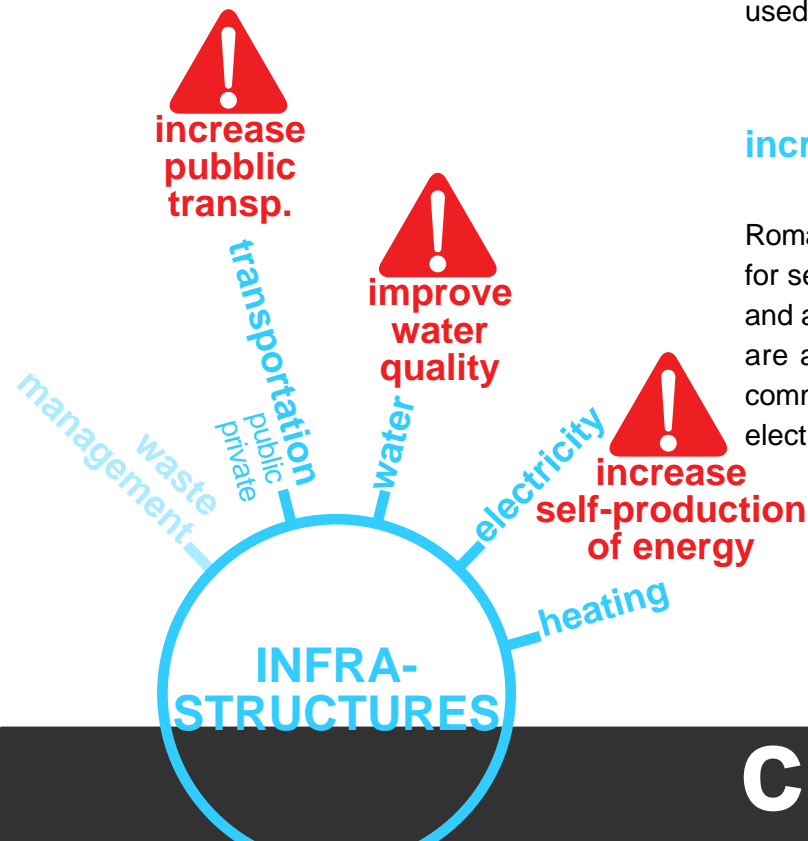
All transportation infrastructure in Romania is the property of the state, and is administered by the Ministry of Transport, Constructions and Tourism, except when operated as a concession, in which case the concessions are made by the Ministry of Administration and Interior. Public transportation needs more funding: most bus stops do not have proper weather proof shelters or enough lighting for night and security purposes. Stop funding more road widening projects to support single occupant vehicles, and use that money to develop public transportation system which can better use existing roads.

## Improve water quality

The alignment to the standards of European quality mean very big costs, financial evaluation for communitarian environment acquis implementation, in the period 2004-2018 being almost 29,3 billion dollars. It is pursued the improvement of environmental infrastructure, fact that means stations for treating water, stations of purifying used waters, deposits that were not corresponding

## Increase self production of energy

Romania has significant fossil fuel and hydroelectric resources, and has the potential to be energy self-sufficient for several decades, however, it has become a net-importer of crude oil and gas due to obsolete equipment and a slow-down of investment in exploration and production coal. The total net imports of energy resources are approximately 21% of TPES if not accounting imports of nuclear fuel. The main imported energy commodities are crude oil, natural gas, petroleum products and nuclear fuel. Romania is exporter of coal and electricity. The share of fossil fuels on total primary energy consumption is 84%.



# criticalities



# SAFTICA

strategies for sustainable development

## Proposal 1: Complex System of productive house

The creation of framework for attracting foreign investors is a vital condition in the compensation of local capital and it increases labour productivity to a level which allows for improved living condition. Development of economic activities dependent on resources of raw material in the area. For sure, one strategy is to encourage construction of private homes by providing financial credit with low interest rates and providing social housing.

A multidisciplinary approach that redesign the flows of material, energy and information and the relationship within the local context, generate new multiple and complex solutions. This new approach leads not to design only the building but the whole system of living. In that way, the building is seen as a complex eco-system in which what is not used in a system becomes raw material for the development and the survival of something else. Thinking by connections allows to see each anthropic process in a new light, and by viewing the entire system it is possible to pursue the goals of sustainable development and zero emissions. Innovation is given by new way in which the problem are seen, only in that way it is possible redressing exploitation of natural resources and stimulating a continuous technological update, that allow to consume less and to use only when they are really essential. The new technologies are useful to design this systemic housing that is self-sufficient and is in relation with the city around.

These concepts design show unusual potentialities that the systemic approach in the housing could reach increasing the benefit for men and the environment. What is needed is a board set of changes in the way everyone involved in that topic, like an integrative design team, society can enter the process of change with a rough sense of the path it will take, but it needs a clear idea of its destination.

The proposal is a “climate-sensitive design”, “flexible buildings” and more environmental friendly materials. Understanding Saftica as dynamic and ever-evolving eco-systems can help to formulate for a sustainable urban future.

## Proposal 2: Alternative Transportation

It is important to design urban space, specializing in pedestrian and bicycle planning, placemaking and finding solution for automotive traffic and parking spaces.

The question of how to enhance mobility while at the same time reducing congestion, accidents and pollution is a common challenge to many cities. Efficient and effective urban transport can significantly contribute to achieving objectives in a wide range of policy domains for which the EU has an established competence. Mobility in urban areas is also an important facilitator for growth and employment and for sustainable development in Romania.

Experience show that there is no single solution to solve the mobility in city. Alternative private car use, such as collective transport, walking, cycling, should be made attractive and safe. Citizens should be able to switch between modes easily.

The purpose is to support the creation of human, interesting, healthful and vital environments that allow communities to grow and prosper economically, socially, artistically and ethically. It is a comprehensive strategy that at once aims to reduce car traffic in Saftica and increase individual mobility through improved conditions for pedestrians, cyclists and public transportation. For example is possible to test a Personal Rapid Transit, also called personal automated transport or pod car, that is a public transportation concept that offers on-demand, non-stop transportation, using small, automated vehicles on a network of specially-built guideways. From an engineering standpoint, they can be envisioned as very small subway cars, sometimes as small as three seats. The personalized point-to-point service operates more like a taxi than a subway.

Furthermore, other possible solutions range are good connections between modes, good parking facilities outside city centres, urban charging schemes, better traffic management and information, carpooling and carsharing, and efficient freight transport.

Citizens expect more flexible transport solutions for both freight and passenger mobility. This could be achieved through innovative solutions for high quality collective transport, intermodal terminals for collective transport, and good links with Bucharest and other cities around.

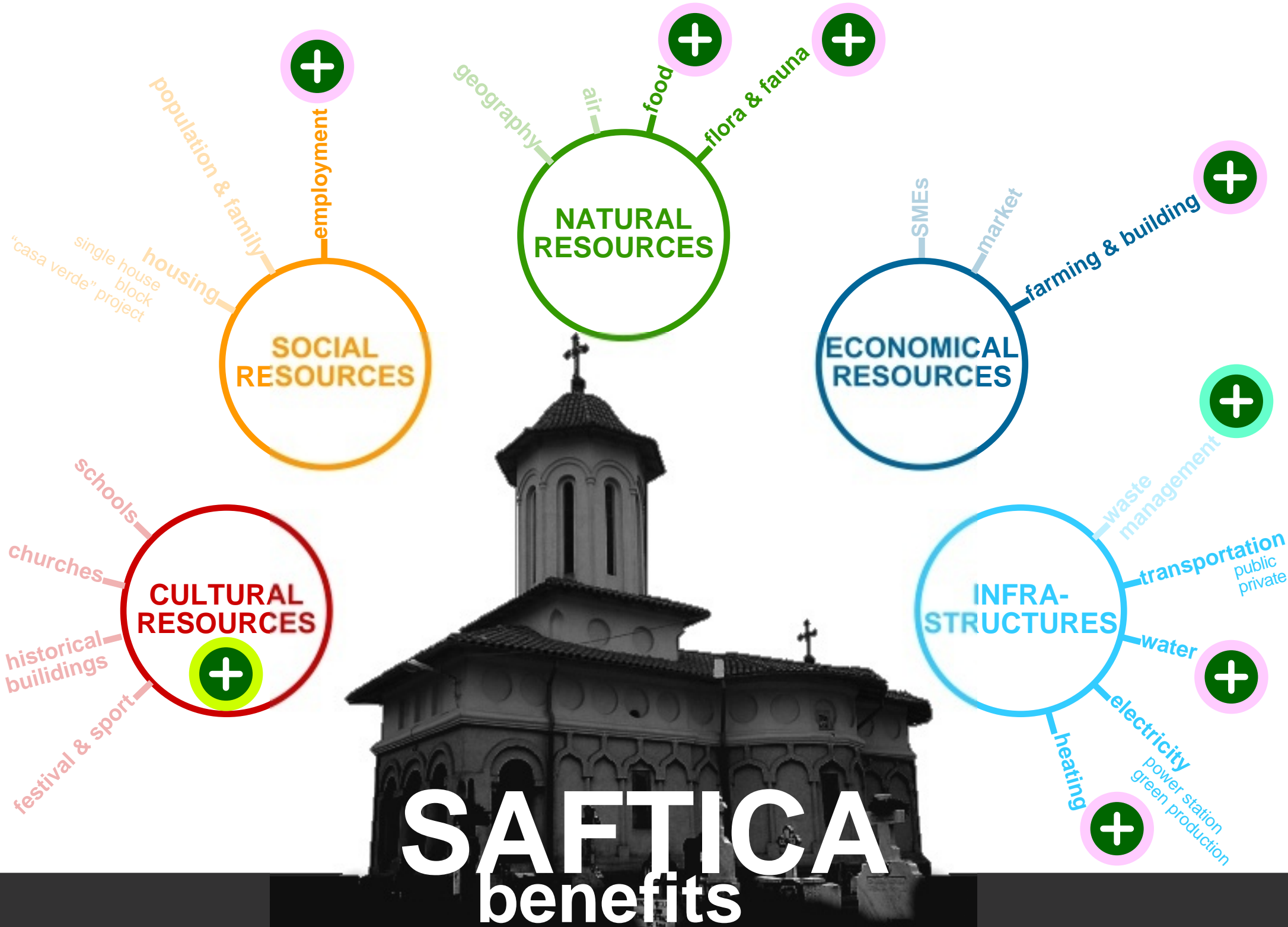
### Proposal 3: Dissemination and Communication

It's really important to improve of the relationship between the individual citizens, transparency in decision making process and its application, active and effective participation of the civil society in the decion making process, and efficient methods for communicating with citizens. To monitor that improvement it will be used a System for evaluating of the quality of services offered to citizens, and the level of satisfaction of the community's demands.

One of the strategy is organizing symposia to inform and involve the community regarding the need of ecologically-friendly activities and behaviours.

Creating a correlation between the administration system's need and the existing human resources capacities, the level of professional expertise by City Hall staff will increase: achive a superior qualitative level of professional expertise through staff attendance of intruction programmes (trainings, courses, seminars) at least once per year; collaboration with other institutions and organizatio on the design of prepatory courses in the area of local administration; identify possibilities for participation in financing programmes for the improvement of human resources.

Motivate and increase responsibility levels among personnel will increase the awarness regarding the importance of every staff member's activities. Furthermore, it will create exchanges of knowledge and experience with similar institutions in other cities, either on a national level, or foreign sister-cities.



# SAFTICA

benefits

## Complex System of productive house: benefits

The creation of productive houses (much more than passive house) will have many different benefits, that solve primarily the stagnation of the construction system that nowadays is also negative because it also hinders agricultural exploitation of this areas. With the stimulation of new constructive model that promotes productives houses, the area will benefit for residential activities connected with the territory and the production of it's own food. In that way the new private houses will produce food and water, taking care of typical fauna and flora. Furthermore, the complex system of productive houses will provide also water, heating and electricity, alleviating the responsibility and the weight of the municipality.

The already mentioned benefits, that are more focused on infrastructures and natural resources, have also important effects on social aspects, because people that live in that kind of houses must have an high level of knowledge in manage complexity and be very active, or better pro-active, in their own territory. In that sense, they can increase their normal activities with the production of food, water, electricity and other staff; so they can have also economical benefits from those. This complex system starts a virtuous circle, where also the public administrations are involved and everyone in their own roles can contribute to evolve towards a concrete sustainable development.

## Alternative Transportation: benefits

Transport undoubtedly belongs to the most complicated, and therewith fascinating economic sectors. The transport sector exhibits a number of specific features that renders common economic wisdom of only limited use in the assessment of the sectors' costs and benefits. Nevertheless, such an assessment is an important input for the design of transport policies based on solid economic principles.

Any change in trip or location choice behaviour associated with routes, modes, or workplace and residence is a direct consequence of the perceived relative advantage of the newly selected option. It is crucial the evaluation of the relationship between economic benefit and commonly used accessibility indices for a large class of spatial interaction models. The following items usually enter into the evaluation of transport projects:

- construction and maintenance costs of facilities;
- vehicle operating cost;
- journey times;
- accidents;
- accessibility and comfort and convenience;
- environmental and other non-user effects.

The benefits for the society derive from a transport system arise through the usage of a higher number of transport networks. Usually, the decisions of whether to supply the infrastructure, and to use it are taken by different actors, but the latter decision is usually taken by individual agents.

## Dissemination and Communication: benefits

The objective was to design a next generation communication protocol for dissemination oriented communication that was applicable in a wide variety of (inter)networks. The municipality will develop information systems designed specifically to facilitate the sharing and integration of knowledge.

This system will contribute to individual and organizational improvements in varying degrees. An emerging line of systems targets professional and disseminating an organization's "knowledge" as opposed to "information" or "data". The concept of coding and transmitting knowledge in organizations is not new: training and employee development programs, organizational policies, routines, procedures, reports, and manuals have served this function for years.

The model will

- save time;
- improve projects;
- increase staff participation;
- enhance communication;
- make the opinions of staff;
- reduce problem-solving time;
- provide better measurement and accountability.

*edited by:* Silvia Barbero

PhD in Productive Systems and Industrial Design (Politecnico di Torino - Italy)

expert in Systemic Design

[silvia.barbero@polito.it](mailto:silvia.barbero@polito.it)

+39 349 7633793