

## THE CONSEQUENCES OF FLOODING IN THE TIMIS COUNTY OVER THE SUSTAINABLE DEVELOPMENT OF THE AFFECTED AREA

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**Abstract** : *In the era of climate change and weather hazard sustainability becomes not just a generous idea but a solution to unpredictable events. The paper aims to analyse the consequences concerning sustainable development of the floods since 2005 up to the present. Data presented will refer to mediatic presentation of the events, measures taken by the authorities and the actual situation of the area and its future chances to development.*

**Key words:** *rural development, hazard, sustainable development*

### INTRODUCTION

The key problem of sustainable development is the opposition between the population's needs of growth and the limits set by the planet's resources, as well as the continuous degradation of the environment.

The sustainable development can be easily defined as a better quality of life for every person, both for the present and for the next generations. Sustainable development means: a balanced and equitable economic development, high levels of occupation, social cohesion and inclusion, a high level of environment protection and a responsible usage of the natural resources, coherent politics that generate an open, transparent and justifiable political system, efficient international cooperation towards promoting global sustainable development.

The development of a community conforms to a planning process that contributes to the bigger process of sustainable development; the focused intervention is necessary for the motion of a community, but it is not sufficient.

### MATERIALS AND METHODS

The methodological process is placed in the larger context of knowledge, thus offering the necessary technical support for acquiring information and transforming it in the required data.

Developing the knowledge base is a basic preoccupation of society and of the scientific community, having a large set of definition that may vary from the classic ones to the ones that belong to a specific branch of a certain domain of discipline.

If we define knowledge as the action of knowing and its result, we can understand automatically that in this situation we deal with a process oriented towards a well defined goal.

The interview is a technique for obtaining, through questions and answers, verbal information from subjects and human groups in order to verify hypotheses or to scientifically describe socio-human phenomena. Conversation represents the fundamental element in the interview technique, while the meeting is only a condition that facilitates the transmission of information: from the interviewee to the interviewer.

Starting with 14 and 15 April 2005, the Banat Water Branch of "Romanian Waters" National Administration has sent to the County Committee for the crisis situation and to the County Inspectorate for Crisis Situation Banat, an informative report regarding the apparition of hydro-meteorological dangerous phenomena based on N.M.A's (National Meteorology Agency) prognoses.

The massive overflowing, in a period of approximately 3 hours, have led to accelerated erosions, apparition of breaches on the right strand of the river Timiș, from Crai Nou to Grăniceri, all the area between the Bega Channel and the river Timiș being flooded.

## RESEARCH RESULTS

### *Overview on the course of economic activities after flooding*

This indicator expresses the manner in which the respondents appreciate subjectively the re-engagement in the economic activities after the flooding. Over half of them state that the activities are running worse (51.8%) or the same as before (33.8%). From this point of view the floods have affected a little over half of the population, annihilating the possibility of developing economical activities. (Fig. 1)

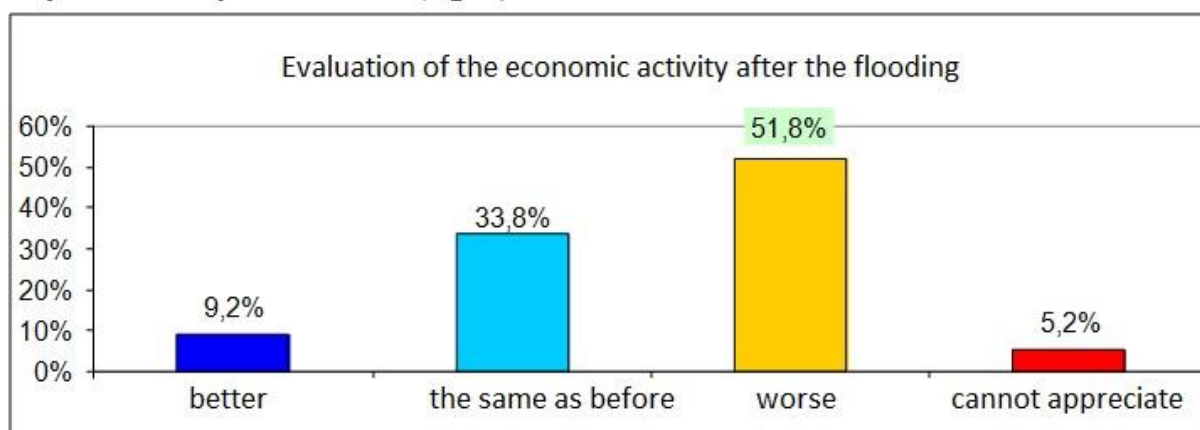


Fig. 1

In the following section we will present an overview on the economical activities after the flooding and the level of studies of the population. We believe that high education favours a better evaluation of the existing economical situation.

On a descriptive analysis, the percentage reveals a similar tendency, so:

- the respondents that have a minimum or medium education tend to evaluate the current situation as worse then before;
- the respondents with a higher level of education tend to appreciate the economic activity as the same as before.

Table 1

	Four grades	Middle-school	High school	Industrial school	Post high school	University	Total
Better	1,0%	1,0%	1,7%	3,5%	0,3%	2,1%	9,7%
Same as before	3,8%	12,5%	10,4%	5,9%	1,7%	1,4%	35,6%
Worse	6,6%	21,5%	13,5%	11,8%	1,4%	0,0%	54,7%
<b>Total</b>	<b>11,4%</b>	<b>34,9%</b>	<b>25,6%</b>	<b>21,1%</b>	<b>3,5%</b>	<b>3,5%</b>	<b>100,0%</b>

*The evaluation of living conditions after the flooding*

This is another indicator that describes very well the impact of the floods on the local economy. The scale of appreciation allows a purely subjective evaluation. Thus, 47.5% state that the living conditions are the same as before and 43% state that they are worse. From this point of view, 43% of the population suffered changes that affected their living conditions, thus being very vulnerable to other risk factors as well: poverty, sickness, etc.

9.5% are the ones that state that they are living better than before. These are the ones that have benefited of social aids the most. Thus, considering the standardization politics of constructions, starting from the large number of family members, there are great chances that the poor subjects, that have lost a house, may have gotten, in exchange, better conditions than the ones they have before. (Fig. 2)

This factor may have contributed to the deterioration of human relations.

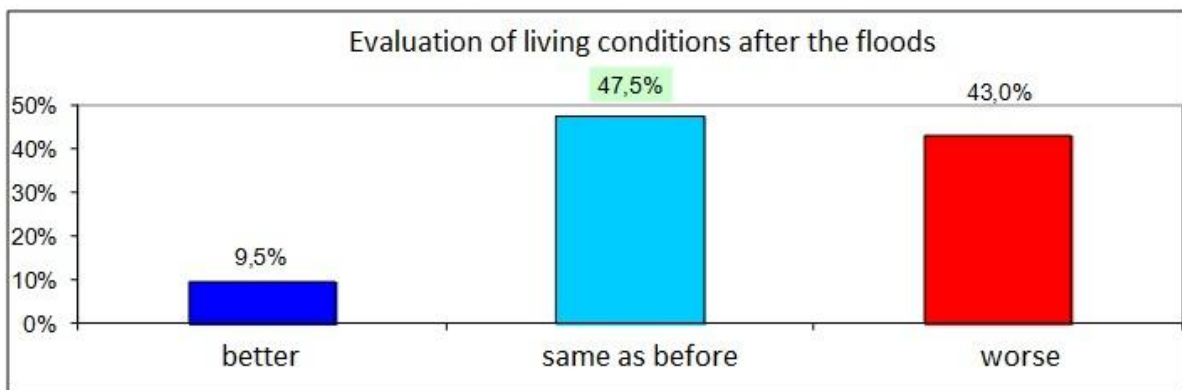


Fig. 2

In the following section, the operation of crosstabulation tries to catch the relation between the variable that defines the appreciation of the economic activity after the flooding and the living conditions. On a descriptive analysis, the percentages show us the following:

- 4.8% of the ones that appreciate the living conditions as the same as before have appreciated the economic activity as a good one;
- 22.8% appreciate as the same the current conditions and the economic activity;
- 32.2% are the most affected from both an economic and a living conditions point of view.(Fig.3)

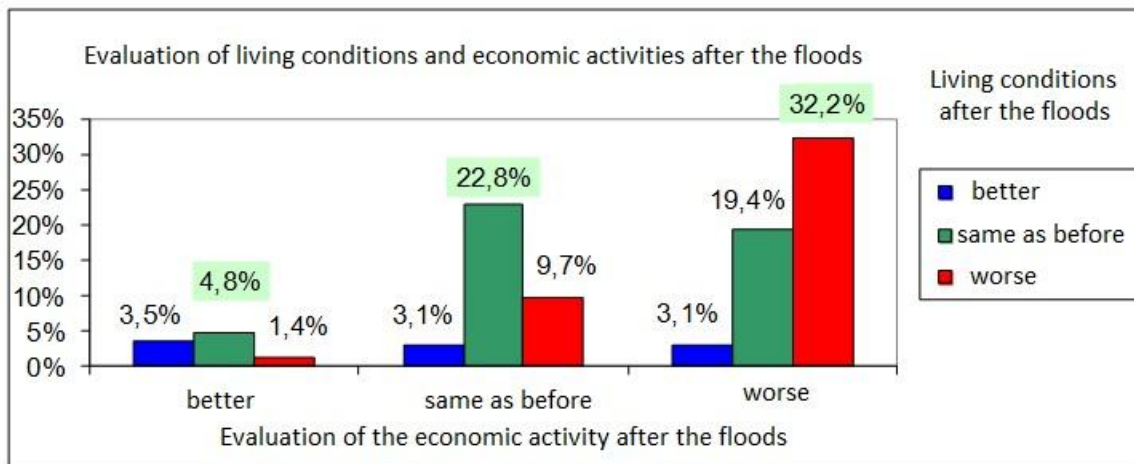


Fig. 3

***Interview held after 5 years from the flooding, on the relevant social actors in the affected community***

The last method used in the research was the semi-structured interview guide applied to five relevant social actors that are members of the public local institutions.

The interview guide inventorizes the development perspectives of the communities affected by floods, being grouped around four major general themes: the community status after five years from the floods, the investigations conducted in the community, the evaluation of economic impact, the development perspectives of the community.

These are the qualitative interpretations of each question.

**1. How do you appreciate the community's status 5 years after the flooding?**

*Interpretation:*

The community's status 5 years after the flooding, the community comes back to normal, but it had stumbled upon difficulties in recovering after the flooding. The psychic and social condition is still a problem, those days have not been forgotten by the community. The community has become more separate, more individualistic. People have adapted to the new living conditions, although the habitable area has shrunk, and some may have experienced some discomfort because of that. In general, the community is still the same.

The young population has started house reconstruction, although they believed, during the flooding, that the community will be broken apart or moved. It has been noted a change in the architectural style, due to the new houses built by the Government. The community is not 100% reestablished, the consequences of this disaster remaining its memory.

**2. What investigations have been carried in the community after the floods regarding them and their effect on the infrastructure, the bridges or the dams?**

*Interpretation:*

The most important investigations have been aimed at building houses, bridges and road infrastructure. The roads from the centre of the four localities have been asphalted, and the side streets have been paved in 97% of the areas. Before the flooding these roads were not usable because they consisted only of soil and the rain often transformed them into mud. These roads were a necessary measure to be taken in order to reach the locations in which the new houses were built by the Government or sponsors.

Investments of 100 millions of Euro were allocated for the cross-border rehabilitation project for the Timis river from Lugoj to the border with Serbia. By the end of 2010, this project should have been finished. The maximum level of the dam is 11 meters, and in 2010, due to heavy raining, the level has reached 8.6 meters.

**3. What impact do you think the flooding has had on the local community from an economical point of view?**

*Interpretation:*

The impact of flooding on the community from an economic point of view was perceived as a big one, the water remaining in place for 3 months. Almost 90% of the houses have collapsed in the four affected localities. The cereal stock suffered the biggest losses, because people used to sell their cereals in the spring and when the flooding happened they had their barns full. The harvest from several thousands of hectares was lost. For example, a farmer lost his wheat harvest of over 500 hectares, that equaled 4,000,000 kg, and another lost 30 wagons of cereals, that equaled 300,000 kg. From 4,800 hectares, 3,500 were 90% compromised. Some of the farmers benefited from reimbursements, the ones that had insurance, namely the agricultural firms that had bank loans, but the small producers were not reimbursed. Most of them lost their lifetime savings, especially because a lot of them had installment rates for their household objects that they lost.

An interviewee stated that "It all went down the drain".

**4. How confident are people in the future of the community?**

*Interpretation:*

People are confident in the community, but for a better cohesion it is necessary that help will come from the ones that are involved in the community's problem solving activities and from the

mass-media. After the floods, the local community is more accesible, meaning that each councillor has a day in the villages that is dedicated to the problems of the citizens. The young ones that were gone abroad are confident because they can built houses so that the village will develop through the construction of a water system, sewage and organized garbage disposal.

There is still a disappointment towards mass-media that influences the future of the community because it shows only the negative aspects from the localities, and the people that work on rebuilding the protection dams are not mentioned at all. The positive news that could lead to the coagulation of the community, to volunteering activities, or actions that could develop the youngsters atitudes, are simply not made public.

A interviewee stated that "this water brought bad things for the community, but also good ones, because the new houses are made of bricks, not of clay".

**5. What are the possible development perspectives of the community?**

*Interpretare:*

The development perspectives of the community are agriculture, animal breeding, bio-vegetables farming, establishing a factory for canned goods and pickles, the opening the border point of Foieni, where 1 million Euro was invested. The border point will be opened at the end of 2011.

After the floods, the texture, quality and the black carth of the soil has changed, these needing scarification works that onlt the big companies that have leased the land can afford them, the small owners not being able to pay for these kind of work. There are two companies that work on the lands and absorb the working force from the community, an italian and a german one, each owning 1.700 - 1.800 hectars.

**6. Have any structural funds or other sources of financing been accesed? What are these projects aimed for?**

*Interpretare:*

Structural funds have been accesed, but the project has not been won. Several project have been made for the water system throught the County Committee on the criteria 4. There was another project of the Banat's Mitropoly, worth of 5.000 Euro, for the local pupils. The agricultural firms have accesed SAPARD funds and have won buying equipment for agriculture.

**7. What investments would be necessary for the economic development of the locality?**

*Intepretation:*

There are some investments, namely the construction of a silo for cereal storage and a station for briquetting, for manufacturing straw briquettes, already implemented by the romanian glass-house factory, where before the heating was made with wood. Other investments would be the leasing of 4 - 5 hectars of pond land in order to transform it in a recreation area or to build a factory for canned vegetables.

**8. Do you have a strategy for the economic development of the locality?**

*Interpretation:*

Strategies exist: the construction of a sports hall, a guesthouse with a large pool, a riding centre, a fishing pond, an elderly asylum, a social canteen, and development in the vegetable production area. The measure 3.2.2. (The renewal, development of villages, the improvement of the basic services for the economy and the rural population) has been denied and, thus, has not been implemented.

## CONCLUSIONS

It has been confirmed the hypothesis that stated that *The level of education influences the evaluation of the economic situation*. It must be taken into consideration that indeed the loses were big and they have affected deeply the economic life, affecting also all the structure of the community. It may also be that the ones that hold university degrees have also better living conditions than the others, and so they were less affected.

In the context of the floods manifestations, at the level of the affected communities a problem arises: their development in regard to the regeneration of the area and of the nearby community.

The floods have evidently affected the economic activities. As far as the proportions of the answers from each subcategory are concerned, we can affirm that in the first two affected villages the damages were bigger than in the other two.

The perspective of economic relaunch of the area was dark, the floods affecting a little over half of the population, annihilating the possibility of developing any kind of economic activities.

It must be held in mind that there are other factors that compete and endanger the life of the community, such as the aging of the population, the migration towards urban areas, poverty and the deterioration of the living conditions.

The possibility of migration abroad for the work force has made easier the growth of income in the family budget, but the public and private investments in the area have created the premises for the economic relaunch.

The deterioration of the living conditions

As far as the living conditions are concerned, immediately after the floods, 47.5% of the population has stated that they are *the same as before*, and 43% stated that they are *worse than before*. Furthermore, the correlations have indicated that among the elderly (over 56 years) the possibilities of economic recovery are scarce, especially because of the incomes. From this point of view, they are more vulnerable than the other categories.

The architectural style of the house built by the government has set a certain standardization of the constructed landscape.

The erosion that occurs in the trust in public institutions and their capacity of handling such type of events.

Also, an evaluation was done on the level of satisfaction as far as the works on the infrastructure are concerned, indicator that revealed also the existence of significant differences between localities. This denotes the lack of a unitary and coherent approach for the allocation of funds and for the monitoring of the floods.

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