

THE DEMOGRAPHICAL, SOCIAL AND ECONOMICAL IMPACT OF THE DEINDUSTRIALIZATION PHENOMENON IN THE ALTÂN TEPE MINING AREA

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Abstract

The European mining industry restructuring, initiated in 1990, had a negative impact on the demographic and socio-economic status in E.U. States. In Romania, the Government's decision, in 1997, of closing unprofitable mines was not accompanied by economical reconversion measures, thus leading to a poverty and depopulation phenomenon in the mining areas.

This article aims to highlight the negative impact of mining cessation on demographic characteristics and socio-economic development in the mining area Altân Tepe, Stajaru village, Tulcea county, where the deposit with the highest concentrations of copper in Romania is located.

The statistics show that the Government's decision to stop mining in 2003 caused an increase in the locals' dependency to social aid and resulted in halving Altân Tepe's inhabitant's numbers between 2003 and 2014.

The results were based on comparative analysis of three indicators: Evolution of the number of inhabitants in Altân Tepe between 1990 and 2003, Evolution of the number of inhabitants of Altân Tepe between 2003 and 2014, and Evolution of the number of social aid beneficiaries between 2004 and 2014.

The study highlights that stopping mining at Altân Tepe has turned one of the richest places in natural resources of Romania into a disadvantaged area.

Keywords: mining, copper, Altân Tepe, deindustrialization, depopulation.

1. Introduction

Romania has a tradition of over 2,000 years in the field of mining. The first operation targeted the extraction of gold from the mines in Roșia Montană, a village located in the Alba county, in the south-west region of Transylvania. Here gold mining dates back to the year 44 BC. (Szabo, 1876, p. 293) Throughout history, from the subsoil of our country were extracted, in addition to gold, other valuable natural resources, one of the most important being copper.

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Mining and quarrying recorded the highest production during the communist regime, when state-owned enterprises have harnessed underground resources. In the period 1950-1987, studies were carried for identifying geological reserves, mines and quarries were opened, aiming to seize all minerals from the deposits, including rare metals. (Neagu, 2015, p. 5) In 1980, Romania obtained a copper ore production of 80,000 tons, nearly four times higher than that achieved in 1926. (Dănilă, 1982, p. 106).

After the Revolution of 1989, the mining industry had entered an extensive restructuring process that involved stopping the subsidies for unprofitable mines, closing mines and quarries that were generating losses, and initiation of collective dismissal of the employees. The reform process started as a result of the loan agreement signed by the Government with the IMF on 23 April 1997. Under the agreement, the Government undertook to stop work in the unprofitable state enterprises in the mining sphere. The legal basis for the closure of mines which had been reporting losses was the Emergency Ordinance no. 51/1997.

During 1997-2007, the government closed 565 mines and quarries. (Ministry of Economy, Trade and Relations with Business, 2012, p. 1) Following the restructuring process, the total ore production of Romania in 2005 was 70 million tons, 93.8 million tons less than that achieved in 1988. (Neagu, 2005, p. 5) If in 1997, in the beginning of the restructuring process of the mining sector, Romania had obtained a production of 23,600 tons of copper; by 2007 the production fell to 13,700 tons, while in 2010 to only 5,000 tons. (National Agency for Mineral Resources, 2015 p. 1)

The restructuring of the mining industry has had negative consequences, namely the mines deindustrialization, depopulation and impoverishment and the emergence of disadvantaged areas. (Stoica, 2010, p. 89)

The restructuring of the mining industry had a negative impact on the demographical status as well as on the economic and social situation in other European countries as well, the main consequence of this phenomenon being the phenomenon of unemployment and subsequent the depopulation of mining areas. (Murphy, Terry, Bychkov, Jordan, 2012, p. 255)

In the 1993-2002 period, the Polish government had closed half the coal mines thus reducing the number of employees in the mining sector to half, from 312,000 workers to 146,000. (World Bank, 1994, p. 70) The restructuring of the Polish mining industry generated the phenomenon of poverty in the mining areas affected. In Germany, the restructuring process of the mining industry was initiated after 1991, following the reunification of the German Federal Republic with the German Democratic Republic. In the city of Leipzig, located in the east of the country, in the Saxon region, mining closure triggered a process of depopulation. In Leipzig, between 1990 and 2015, the city's population was

reduced from over 700,000 inhabitants, in 1990, to 550,000 people in 2015, primarily because of the lack of jobs. (Patel, 2015, p. 1)

In Romania, starting in 1999, Altân Tepe was declared a disadvantaged area by Order of the Government no. 210/1999. Here, there has been a rich mining industry tradition since 1914, mining being the main occupation of local people in the last century. Following the cessation of mining activity, Altân Tepe was faced with a dire process of deindustrialization and entered into demographic decline. If in 2003, when the mining stopped, the town had 520 inhabitants, by 2014, the number of inhabitants had been reduced to 360.

The study of mining in the Altân Tepe area is important because the deposit that is located here has the highest concentrations of copper in Romania. In this deposit, the average concentration of copper is 4.25%, while the only other copper deposit currently exploited, at Roșia Poieni, Alba County, has the much lower average concentration of 0.36% (National Institute of Geological Sciences, 2016, p. 1). During the study period, 2003-2014, global copper demand increased by 35%. (Stoian, 2015 p. 2)

The researches shows that stopping the mining at Altân Tepe led, initially, to an increasing dependency of the residents on social benefits granted by the Village Hall of Stejaru and thereafter triggering a phenomenon of depopulation. Currently, there is no other scientific research on the demographical, economic and social impact, of the Government's decision to shut down its mining operations from Altân Tepe.

The existence of the adverse consequences of this phenomenon in correlation with the international increasing demand for copper can be a start for the authorities to adopt the necessary measures to solve this social problem, given that Altân Tepe, one of the richest areas in natural resources in Romania, impoverishes and undergoes a process of depopulation.

2. Data and Methodology

The base of this study is the deprived area of Altân Tepe, Stejaru commune, Tulcea County.

The methodology used for this study is based on quantitative analysis of statistical data made available by the Village Hall of Stejaru for the period 1990-2014. Statistical data was used to analyze demographical and socio-economical characteristics of the Altân Tepe mining area.

The indicators used the Evolution of the number of inhabitants of the Altân Tepe village in the period 1990-2003, the Evolution of the number of inhabitants of the Altân Tepe village in the period 2003-2014 and the Evolution of the number of beneficiaries of social aid in the period 2004 -2014. These indicators were selected to highlight the demographic development of the Altân

Tepe mining area in the period 1990-2014 and economic and social situation of the village, following the Government's decision to stop the mining.

In this research there were used as reference the year 1990, the first year after the change of the communist regime, the year 2003, when the mining activity halted, and 2014, the latest year for which statistics are held by the Village Hall of Stejaru.

The assay also used statistical data provided by the state company Minvest Deva, to which the Altân Tepe mining area belongs. These statistics were used to study the production activity of the mine for the reference years 1990 and 2003. The indicators used are the production of copper ore and average number of employees the Altân Tepe mine had in 1990 and 2013. Also, for this study a qualitative analysis was used to highlight the negative impact that the mining cease, the only economic activity present in the area, had on the local population. Participatory observations and on-site investigations were made in the Altân Tepe mining area between 11.19.2015 and 20.11.2015.

Information about the situation of the settlement was obtained also through a semi-structured interview with the technician Marcel Bucur, the last employee that the public company Minvest Deva had in the Altân Tepe mining exploit.

3. Results and discussions

3.1. Evolution of the Altân Tepe mining activity in 1990-2003

Between 1990 and 2003, the only Romanian state owned exploit of copper outside of the Carpathian Mountains was being operated, through Minvest Deva, in Altân Tepe. From an administrative point of view, Altân Tepe belongs to the Stejaru commune, in Tulcea County.

The Altân Tepe mining area is situated in the central part of the Dobrogea region, on the Plateau Casimcea, at a distance of approximately 80 kilometers from the city of Tulcea, between the communes of Camena, Stejaru, Ceamurlia de Sus and Vasile Alecsandri. (Fig. no. 1)

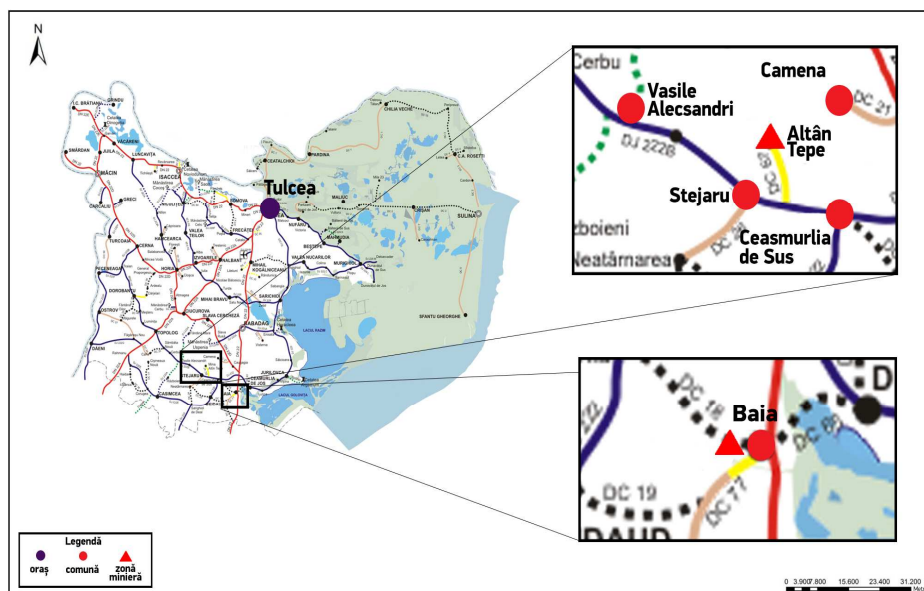


Fig. 1. The geographical position of the Altân Tepe mining area

The first references to the Altân Tepe settlement appear in 1584 in the records of the Ottoman Empire. In Turkish, the name “Altân Tepe” means “hill of gold”. The Altân Tepe mining operation is one of the oldest in Romania. The copper ore deposit has been exploited, almost without interruption, for 90 years, from 1914 until 2003.

Geological research has confirmed that this is where the richest copper deposit in Romania lies. The average concentration of copper in the deposit is 4.25%, vastly superior to the average concentration of 0.36% of the copper deposit at Roșia Poieni, now the only actively exploited copper deposit, currently operated by the Romanian state through Cupru Min Abrud. The Altân Tepe deposit contains, besides copper, also precious metals such as gold and silver.

During the communist regime, Altân Tepe had been a pole of attraction for the workforce in the Dobrogea region. The settlement had the amenities of a city. Here, the communist authorities built housing buildings, 271 apartments, a cinema, a library, sports facilities, a swimming pool, a bowling alley and a medical dispensary. The Altân Tepe Mine’s historical maximum production was achieved in 1978 and it consisted in the extraction of 135,000 tons of ore. In 1978, more than 1,100 miners worked here.

In the reference year 1990, the first year after the Revolution of 1989, the Altân Tepe mine an average of 490 workers were employed. In 1990, the mine achieved a production of 60,000 tons of copper ore.

After the outbreak of the mining sector restructuring process, initiated by the Government in 1997, mining Altân Tepe was transferred in 1998 to be managed by the Minvest Deva state company, formerly known as Regia Autonoma de Cupru Deva (The Autonomous Administration of Copper Deva). But the transfer of the mining company to Minvest Deva had no positive long-term effect towards turning it into a profitable business, but instead ended it up ending its activity. (Fig. no. 2)

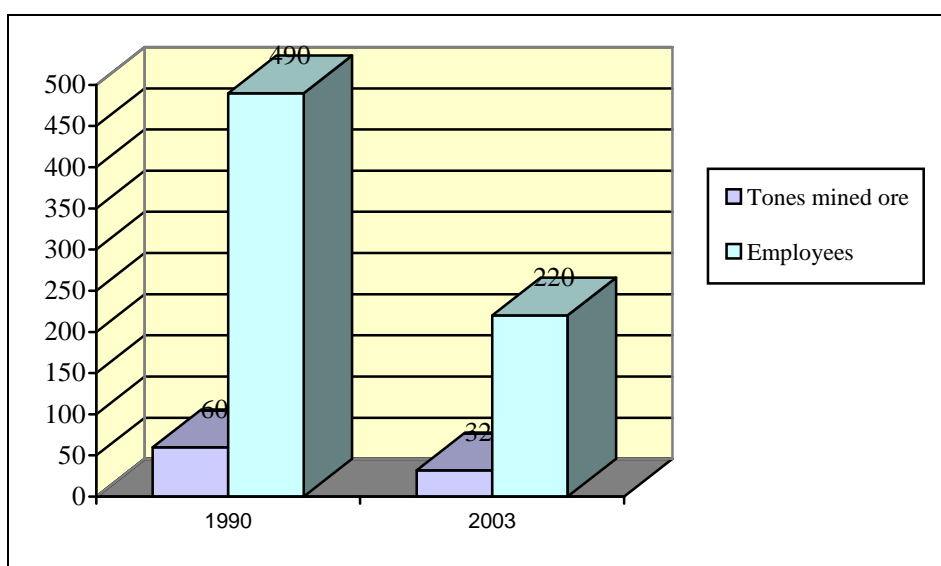


Fig. 2. The production of copper ore and the average number of Altân Tepe mining employees in 1990 and 2013
Data source: Minvest Deva, 2015

Altân Tepe mine was closed by the government in 2003, through Resolution no. 926/2003. The Government's decision has been primarily based on the lack of funds for upgrading the mine and was not based on the depletion of natural resources. There were no funds allocated even for the removal of the equipment still in the mine, thus that equipment remained buried underground.

Existing geological reserves in 2003 indicated the existence of 3.42 million tons of copper pyrite compact (easily exploitable ore rich in copper), plus other 3.249 million tons of copper impregnated pyrite (copper ore that has uneven dispersion).

Analyzing the statistics, there is a direct correlation between the decrease in mining production, reduction of the number of employees of the Altân Tepe mine and reduction of the population of the village. In 2003, the mine achieved

production of approximately 30,000 tons of ore, two times less than the ore production in 1990, of 60,000 tons. In 2003, at the time of cessation of mining, at Altân Tepe there were 220 employees, two times less than in 1990, when 490 workers were mining.

Reducing the number of employees had a negative impact on the demographic situation, as well as the social and economic status of the Altân Tepe village. The loss of jobs than generated a phenomenon of migration of the work-able population towards the cities of Tulcea and Constanța.

3.2. The demographical, social and economic impact of interrupting the mining activity at Altân Tepe after 2003

After 2003, demographically, Altân Tepe was faced with a phenomenon of depopulation. The phenomenon was caused by the loss of jobs and was favored by the absence of a viable providing alternative, given that mining exploit was the main employer in the Stejaru commune. Statistical analysis, of the data provided by the Village Hall of Stejaru, reveals that during 1990-2003, there was a allow decrease in the number of residents of the Altân Tepe mining area.

The strong reduction in the number of inhabitants occurred in 2001 and coincided with the beginning of the process of collective dismissal of employees and the worsening problems in the functioning of the mine. In 2001, due to a lack of investment in upgrading operations, 22 miners remained trapped in mine galleries after a fault to the electrical network. Without new investments for strengthening and opening new galleries, the pursue of mining activity at Altân Tepe would have endanger the safety of the miners.

The demographic development of Altân Tepe, during 1990-2013, followed a downward trend that was accentuated after 2003, the year of cessation of all mining activities. (Fig. no. 3)

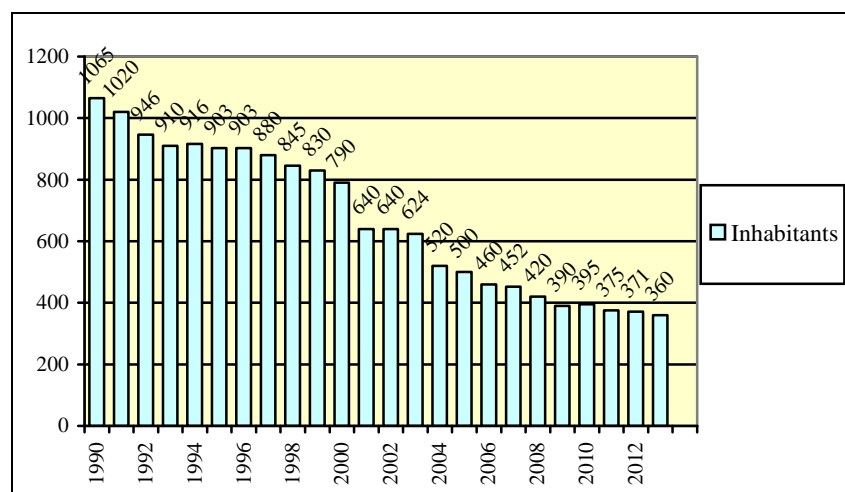


Fig. 3. Evolution of the number of inhabitants of Altân Tepe during 1990-2013
Data source: Stejaru City Hall, 2015

The statistics made available by the Village Hall of Stejaru, show that during 2004-2013, the average annual number of inhabitants was 424 people. It can be easily ascertained that this number is close to half the yearly average number of inhabitants, of 783, registered in 1990-2003, when the mining operations were still active. Between 1990 and 2013, the lowest number of inhabitants has been recorded in 2013, 360 people. (Fig. no. 4)

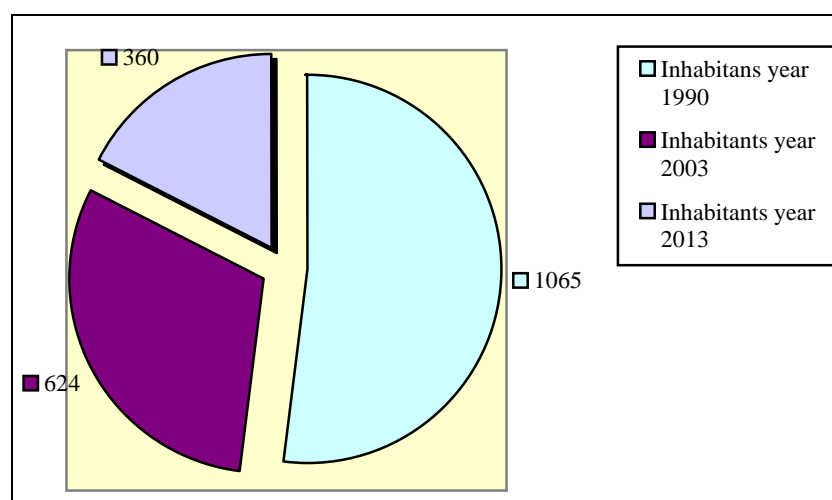


Fig. 4. Number of inhabitants of Altân Tepe in 1990, 2003 and 2013
Data source: Stejaru City Hall, 2015

Statistical data show that between 1990 and 2013 Altân Tepe was faced with a phenomenon of demographic decline, the population of the mining area being reduced to almost a third. Loss of jobs due to the closure of the mining activity, led to increasing reliance of the population to the forms of social assistance. Although the Government had allocated compensatory wages for the miners that were terminated, those welfare measure brought only short-term locals. Without an economical reconversion program, the socio-economic situation of the city continued to deteriorate.

The analysis of statistical data, made available by the Village Hall of Stejaru, found that after 2003, the year the mining ceased, the annual expenditure of the municipality with social benefits residents of Altân Tepe grew steadily, both in terms of value, and in terms of number of beneficiaries. The analysis of statistical data related to 2004-2014 show that between 2004 and 2014, Stejaru City Hall paid social benefits totaling 540,000 lei. The total number of beneficiaries of social assistance was 320 people. (Fig. no. 5)

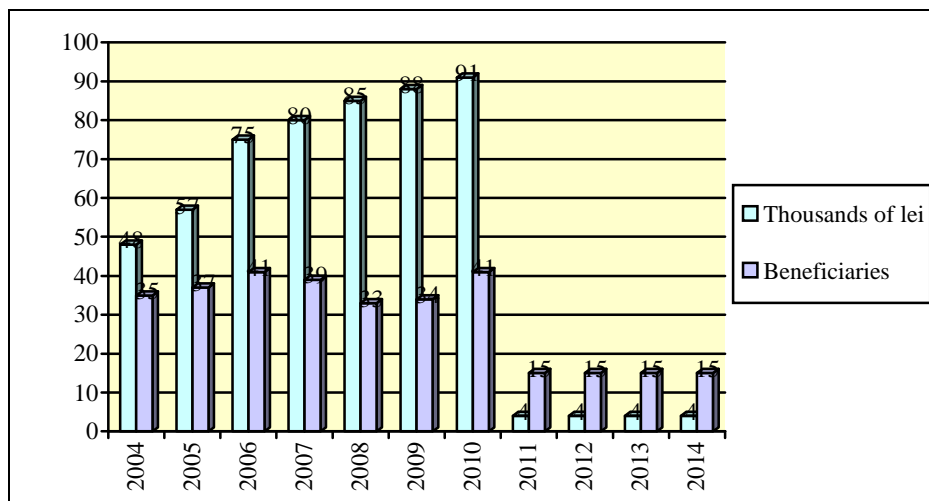


Fig. 5. The value of social aid offered by Stejaru City Hall and the number of beneficiaries in the period 2004-2014
Data source: Stejaru City Hall, 2015

The highest amount paid for social aid worth 94,000 lei, was made available in 2010 for 41 beneficiaries.

Since 2011, following the phenomenon of depopulation of the area, there was a reduction of the social benefits granted by the Stejaru City Hall. In the period 2011-2014, the average annual amount paid by the local budget was 15,000 lei, while the average annual number of beneficiaries was four.

Currently, over 80% of local residents are retired miners from Altân Tepe. They live off of agriculture and livestock. The young workforce of Altân Tepe migrated to the cities of Constanta and Tulcea and abroad.

The settlement is somewhat neglected. Most of the buildings that belonged to the mine were abandoned and currently are in an advanced state of decay. The prospects for the area are low given that 80% of homes in Altân Tepe and a surface of 30 hectares of land belong to the state company Minvest Deva. (Fig. no. 6)



Fig. 6. Altân Tepe – abandoned housing service, Minvest S.A. (November 2015)

The only local employers are an ecological incinerator, which operates since 2003, and a grocery store. Although in the last ten years, Altân Tepe has been prospected by numerous foreign investors interested in exploiting the copper mine, so far, no official request has been made to resume mining in this area.

4. Conclusions

The decision to stop all mining activity in the Altân Tepe area, adopted by the Government in 2003, had a negative impact on the local community, as it was not accompanied by measures of economic reconversion.

After cessation of mining, between 2004 and 2010, it was increased dependence locals to the forms of social assistance granted from the Stejaru Village Hall budget. The lack of new jobs has resulted in the phenomenon of poverty.

Poverty has caused depopulation of the area. Since 2003, the Altân Tepe mining town was faced with a strong demographic decline and the number of inhabitants was halved between 2003 and 2010.

The phenomenon of deindustrialization has had a negative impact on the appearance of the village including generating urban planning issues. The apartment blocks, which have served as housing for miners' service, were abandoned.

Since 2003, the mining operation, which is an integral part of the state company Minvest Deva, is conserved. For this reason, the deposit of Altân Tepe, who holds the highest concentrations of copper in Romania, has no longer been exploited for the past 13 years. In context, during 2003-2014, global consumption of copper increased by 35%.

Because of the cessation of mining and the lack of economical reconversion measures, Altân Tepe, one of the richest areas in natural resources is currently one pole of poverty in the South-East of Romania.

Currently, there is no legislative initiative for the revival of mining in this area.

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