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# Legacies of Displacement from the Iron Gates Hydroelectric Project

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## ABSTRACT

Construction of the Iron Gates I hydroelectric project on the Danube River between 1966-1972 was the result of collaboration between Romania and Yugoslavia. The scale of the project resulted in the permanent displacement and relocation of several communities along the river. The aim of this article is to consider how vulnerability among the displaced communities manifested and the lasting effects this has had on efforts to adapt to life in new locations. The article draws on archival research to examine the contemporaneous processes and decision-making around the construction. It then presents the results of a survey of displaced residents conducted more than 40 years after relocation to identify how displacement was experienced, as well as its lasting effects. The results suggest that the different forms of vulnerability within the community that hampered adaptation continued to shape the community long after the displacement event. They also point to the aggregating nature of vulnerability, as efforts at adaptation continued to be shaped by the interaction of social, economic, and geographical factors.

## 1. INTRODUCTION

Major infrastructure projects have captured the attention of many scholars, especially where they result in population displacement, as is often the case with hydropower plants involving complex and often controversial political decisions (Cernea, 2000; de Wet, 2006; Bisht, 2009). Large dam projects can bring benefits on multiple scales through the generation of energy, creation of new transport opportunities, and the implementation of river regulation and flood prevention. However, the construction and operation of these plants frequently entails induced population displacement, which can be extraordinarily traumatic in the short and long-term for affected populations who must adjust to a new geographical area (de Wet, 2006;

Bisht, 2009; Vesalon and Crețan, 2012). The ability of displaced communities to adapt to new settings is shaped by the actions they take as individuals and groups. However, the ability to exercise agency is determined to a large extent by structural factors that make them more or less vulnerable (Joakim et al., 2015). Vulnerability is also linked to social connections and resource availability, meaning that some community members are more able to adapt, whereas others see their position remain precarious (Adger, 2006; Birkmann, 2007). The scale of the impacts in such cases makes consideration of the longer-term effects of displacement an increasingly important task.

The communist states of Central and Eastern Europe followed a development path that prioritized the building up of heavy industry (Turnock and Carter,

2001). To support this mode of development, extremely large quantities of cheap energy were required to sustain the production. In the case of Romania, hydroelectric power offered an important opportunity to satisfy this demand, with the Danube River playing a critical role. The result was the construction of the Iron Gates I hydropower plant in Southwestern Romania, which supported rapid intensification of industry in the surrounding area (Constantinescu, 1969). Construction of the dam and associated plant commenced in 1964, as a joint project between the governments of Romania and Yugoslavia, with construction completed in 1972 (Văran, 2017; Crețan and Vesalon, 2017; Văran and Crețan, 2018; Văran and Crețan, 2020). After the technical refurbishment of the last two decades, The Iron Gates Hydroelectric Power Plant has an annual electricity production of 5.241 Mwh, which represents about 10% of the national production of electricity. In addition, the plant provides almost half of the system technological electric services in Romania (Hidroelectrică, 2022).

This article explores one of the human legacies of the Iron Gates project: the displacement of a number of established communities from the Danube Gorges. The Iron Gates project encompassed both material (energy, industrialization, and development) and ideological (modernity and power) drivers, speaking to ideas of national prestige. This makes it comparable to other large-scale dam projects such as the Three Gorges and the Grand Ethiopian Renaissance dams in China and Ethiopia respectively (Abdelhady et al., 2015; Feng et al., 2021; Gebresenbet and Wondemagegnehu, 2021; Wilmsen, 2018). Examining the vulnerability and adaptability of communities to the act of displacement over an extended period of time can assist in understanding the potential legacies of such projects. The aim of the article is to consider how vulnerability among displaced communities can have lasting effects and shape memories of what was lost. The remainder of the paper is divided into four sections. The first section presents the origins and construction of the Iron Gates. In the second section we consider the relationship between megaprojects and displacement and how vulnerability shapes community adaptation. The third section outlines the methodological approach. Section four draws on the survey results to consider the experiences of the displaced population from the perspective of vulnerability and adaptation.

## 2. INTRODUCING THE STUDY AREA OF THE IRON GATES

Following the inauguration of the Romanian communist political regime in 1947, many in Romania began to argue that the country required heavy industry (with correspondingly heavy energy requirements) to develop economically. This followed an earlier attempt

to control the flow of the Danube River, as, according to the Mehedinți County Archives (1975), eight years of major work (1890-1898) had been conducted to regulate the river as it flowed through the Iron Gates gorge. The Danube Commission in Budapest also sought in 1949 to regulate flooding and improve the navigability of the river, particularly through the area of the Gorges, where the river narrows and becomes more fast-flowing, making navigation extremely difficult (Pop, 1996).

The first bilateral agreement between Romania and Yugoslavia for construction of the dam was signed on 30<sup>th</sup> November 1963, with a second one, the following year (National Archives of Romania, 1975). These specified that construction would begin in 1964-1965 and run until 1972, that the hydropower plant would be managed by both countries, and that they would also jointly control river navigation. After the death of Gheorghiu-Dej in 1963, Ceaușescu and Tito inaugurated the project, under the watchful eye of the World Bank, who had also called for a concerted plan to manage the resettlement of populations in the area, in order to avert economic decline (Crețan and Vesalon, 2017).

Site organization commenced in 1964-1965, with different areas allocated to different teams. Work took place from 7 a.m. to 7 p.m. from Monday to Saturday (Văran, 2017) and soldiers from various military units were drafted in to ensure that key deadlines were met. Soldier and prisoner camps have been involved in the construction of large dams elsewhere (for instance, Franco's Spain) (Swyngedouw, 2007). The construction of the dam and the hydropower plant began in 1966, lasting six years, until 1972. Workers were organized in units, each headed by one of the 53 Romanian or Serbian engineers. Money from the IMF "sympathy funds" (*i.e.* the time period before structural adjustment) was used to purchase materials from Western European states, ensuring that the new dam met the standards of modern hydro construction (Văran, 2017).

At a human level, the work between 1966 and 1972 displaced around 13,000 people to specially-designated plots of land. Orșova area was mostly affected on the Romanian side of the Danube river (Fig. 1). Some people were relocated close by their former homes; others were moved to entirely different localities. Some settlements were submerged under water, others remained above the water but, nonetheless, underwent profound transformations. Those who were first to move lived in Orșova, Tufări, Jupalnic, Coramnic, Eșelnița, Dubova, and Svișița (Eșelnița Communal Archives, 1975). According to the technical displacement files in the Eșelnița Communal Archives (1975), the choice of a specific plot for relocation was a two-stage process. Initially, families were each offered a number of lots of land on a map,

with each making their selection on the basis of the plan. Subsequently, they went to the site with a representative of the town hall and registered their ownership of that parcel of land. The process was disadvantageous to those who were relocated during later stages, as they were often forced to accept unfavourably located lots.

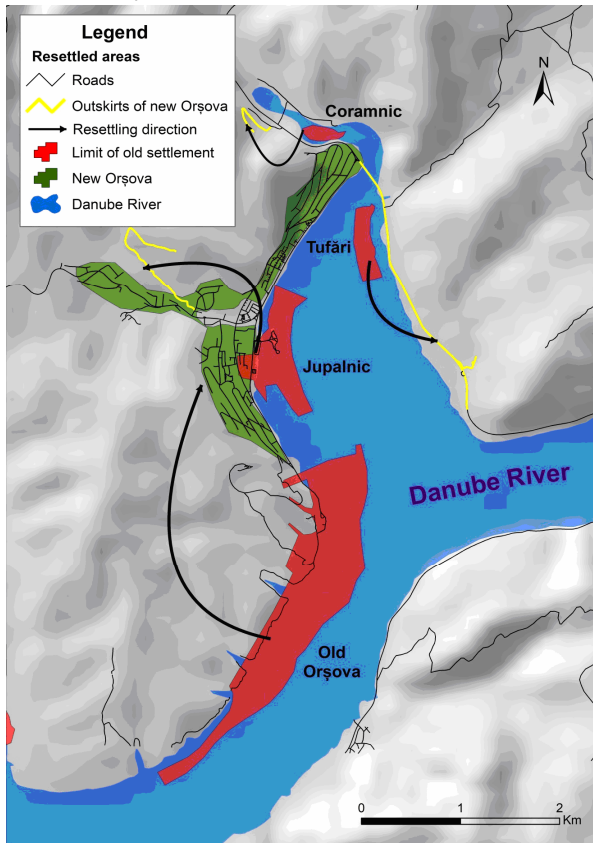


Fig. 1. Resettlements in the Orșova area (source: adapted from Văran and Crețan, 2020).

The way in which resettlements were reconstructed varied from place to place. The existing settlements of Orșova and Eșelnița were completely rebuilt, almost from scratch, in the same place though over an expanded area. According to the technical relocation files from the Eșelnița Communal Archives (1975) and the General Urban Plan for Orșova (1992), the Romanian Communist Party deforested and terraced an entire hillside to create room for a reconstructed Orșova.

For this paper, the study area is extended from Svinița to Orșova (Fig. 1) and we chose four settlements as field research, namely Svinița, Dubova, Eșelnița and Orșova.

### 3. THEORETICAL BACKGROUND: MEGAPROJECTS, DISPLACEMENT AND VULNERABILITY

The development of industrial megaprojects over the 20<sup>th</sup> century played an important role in supporting economic development. Although these

projects contribute to improvements on the national level, there are questions about the distribution of costs and benefits to resident communities (Dunlap, 2021). Development is not a neutral process, as it is embedded in existing social, political and economic structures, meaning that it has the potential to lead to the further exploitation of marginalised groups and communities (Neef and Singer, 2015). When states embark on the construction of megaprojects, it is often based on a collective interest basis, focusing on the need to support the greater good, with limited consideration given to the communities impacted. The result is that megaprojects are intimately entwined with the fate of those residing in the space to be developed. In the case of hydropower projects, land and watercourses are at the intersection of a series of relations, including political power, economic growth, and technological interests, as well as cultural beliefs and practices (Castree, 2005).

Megaprojects are necessarily disruptive to these complex spaces, upsetting the balance of a particular place by bringing change in use and displacing those who are resident within it. The construction of such projects requires whole communities to relocate to new geographical areas, as a cost of intensive economic development (Cernea, 2000; Cernea, 2002). The displacement that results from development entails not only a change in geographical location and socio-economic circumstances, but also a loss of specific practices, and access to resonant places with their associated cultural meanings (Cernea, 2002). As Lyon (2014, p. 1011) argues “concentration on attachment and identity relationships misses the functional aspects of place, such as the relative ability and types of infrastructure that define the practices of daily life”. Specific local knowledge and connections are sacrificed in the interests of the megaproject, which often becomes a highly visible symbol of state power, modernity, and economic development.

The effects of displacement on a community are considerable, as residents are forced to adapt to life in a new setting, without access to networks and resources that had previously sustained them. Price (2009, p. 269) notes that “changes arising from displacement are generally irrevocable”, meaning that the possibility of return is not an option. This places an additional burden on the state as displacer to ensure that the rights of the displaced are handled in such a way as to acknowledge the sacrifice that is made in the wider public’s interest. However, as Morvaridi (2008, p. 58) argues: “The multiplicity of actors involved in displacement and resettlement supports the view that it is no longer clear who the agents of justice are and who has the responsibility to protect the rights of the individual, and in particular of the poorest and most vulnerable”.

Where the state does adopt measures to mitigate impacts, the demands of the project mean that

these factors may be lower down the list of priorities. The result is that any attempts by the impacted community to influence the process are constrained by the demands of the project, leading to a further loss of agency and disempowerment. Displacement of this form has lasting effects on the resettled population.

The effects of displacement are not felt evenly across the community, making it essential to consider issues of vulnerability. Examining the core of vulnerability, Joakim et al. (2015, p. 4) argue that it is a “condition that is an outcome of the social, political and economic processes that create different levels of capacity among individuals, groups and communities to resist, respond and recover”. Viewed in this way, it is clear that vulnerability is a social construct, with the external environment shaping outcomes. Approaching vulnerability in this way enables the identification of systemic, socio-economic and place-based factors, linking the features of the community to the wider environment. Birkmann (2007) points to the dynamic character of vulnerability, noting that it is a process rather than a static reality. Central to this fluidity is the ability of individuals and communities to adapt to change, although even in this case there are inequalities, as “adaptation... often reduces the vulnerability of those best able to mobilise resources, rather than the most vulnerable” (Adger, 2006, pp. 266-267). Castro and Sen (2022) note that while this is the case, considering everyday practices of adaptation draws attention to “hyperlocal actions in response to local ecologies [that] aggregate into adaptive practices deeply rooted in local knowledge and society” (Castro and Sen, 2022, p. 7). Coping with displacement rests on the ability of individuals and communities to maintain or re-establish those practices that support the aggregation of adaptive capacity.

#### 4. METHODOLOGY

Our research is based on a mixed methodology, involving both archival work and a survey of the population affected by resettlement. This approach enables consideration of the details of displacements and how displacement was experienced. The distance from the experience of displacement provides an opportunity to reflect on the longer-term social and economic impacts.

##### 4.1. Archival work

The third author of this paper conducted the archival and survey work, while the other authors did the analysis and framing of the results. We began by analyzing a range of documents from the National Archives of Romania (1975), including documents, and propaganda data from the Central Committee of the Romanian Communist Party (1975). The bilateral

agreements between Yugoslavia and Romania on the construction project were particularly useful in determining figures for production costs as well as the number of workers allocated to the project.

To assess the human impact of relocation, we also consulted records from the relevant local areas, particularly the Technical Relocation Files from the Mehedinți County Archives (1975), the Eșelnița Communal Archives (1975) and the Drobeta Turnu Severin City Archives (1973). This allowed us to build up a picture of not only the villages but also the agricultural plots of the Danube Valley before and after displacement (including newly-built settlements). We explored maps, and plans of the area, along with decrees and documents outlining the process for the demolition of settlements, figures for compensation payouts, and processes for the deconsecration and destruction of churches and the relocation of cemeteries. While the information we obtained was comprehensive, there are gaps in the record. Some material remains classified, other records are missing: for example, in the Orșova archives, most of the documents regarding the relocation of the city and resettlement of the population were burned during the 1989 Revolution (Văran, 2017).

##### 4.2. Survey methodology

Clifford et al. (2016) define the survey as a safe and effective way to collect data about human communities and institutional relationships in a given geographical area. Similarly, Chelcea (2001) argues that a survey provides a useful tool to investigate a research topic involving a larger group of people. For these reasons, we decided to use a survey approach for our research. Following our archival work, the first and second author designed a series of 25 questions, 10 closed and 15 open, to determine the sequence of events around resettlement. The reasons for combining closed and open items were important because we needed to get more data on the scales of displacement and social vulnerability. Certainly, in the case of open question items we were attentive not to appear some potential biased interpretation. The rate of responses was 87%. However, we consider that we attained data saturation and we considered that any further data taken from more than 350 respondents would not have produced value-added insights. The survey questions were about timing of displaced events, how events took place as well as respondents' feelings connected to their social vulnerability and adaptation to the new resettled environment. There are some limitations of the survey because the respondents were very old and some of them hardly remembered some details of their displacement. Nonetheless, the data set we collected was comprehensive and many information items were new in the existing Romanian literature on hydropower displacement.

The survey was applied to 350 participants across the region: 100 in Orșova; 150 in Eșelnița; 60 in Dubova; and 40 in Svinița. From a total of 37 resettled communities, we chose to survey a larger number of respondents in Eșelnița, as many people from this region were subjected to resettlement. Participants were sampled based on the snowball method. The first author knew five key participants in the process of displacement: one male engineer and four elderly people (three women and one man) living in Eșelnița and in Orșova. These initial contacts suggested other people who had been displaced. Then some of the Orthodox church and town hall communities in Eșelnița

were of further help and led us to other displaced people in the four settlements under research.

Due to the high number of participants, one of the authors of this study conducted the survey in several stages between December 2016 and July 2017. We wanted to survey those directly affected by settlement and some time has now elapsed since the dam was completed in 1972, so most of our respondents were older people. 163 questionnaires were completed by men aged between 60 and 92, and 187 by women in the same age range. Some had been children or adolescents at the time that they were displaced; others had been adults (Table 1).

Table 1. Respondent characteristics.

Location	Gender		Age	Gender		Ethnicity	Gender		Religion	Gender	
	M	F		M	F		M	F		M	F
Orșova	44	56	60-70	80	90	Romanian	118	127	Orthodox	103	125
Eșelnița	60	90	71-80	60	60	Roma	8	12	Old-style Orthodox	20	21
Dubova	27	33	81-90	22	36	German	11	17	Roman Catholic	17	16
Svinița	32	8	90+	1	1	Serbian	11	13	Evangelic	10	13
						Slovak	4	5	Baptist	9	5
						Czech	7	9	Pentecostal	2	5
						Other	4	4	Other Religion	2	2
<b>TOTAL</b>	<b>163</b>	<b>187</b>		<b>163</b>	<b>187</b>		<b>163</b>	<b>187</b>		<b>163</b>	<b>187</b>

Source: authors' own interpretation based on the survey data.

The questionnaires were completed on paper, and some of the respondents had age-related difficulties with writing. This meant that the survey took some participants 30 minutes to complete. Many respondents filled in their answers at home (225 persons); others (125 persons) responded directly in public places (schools, bars, parks, commercial markets).

Data interpretation for this study was based on thematic analysis (Bryman, 2016). Responses of the survey were carefully read, grouped, and coded according to a thematic analysis. Therefore, the following are the ensuing major themes or topics: loss of the home and financial support received by families for the construction of a new house and for ensuring job retention; ability to adapt to a new physical-geographical space and a new home; post-relocation impacts on local cultures, traditions and customs.

## 5. RESULTS AND DISCUSSION: EXPERIENCES OF DISPLACEMENT

The scale of the Iron Gates project meant that a number of communities were displaced (Fig. 1) and the lasting effects of these movements have persisted. Consulting the members of the displaced communities 40 years after the event provides an opportunity to consider how these events shaped the impacted communities. As noted above, vulnerability of individuals and groups means that the impacts are unevenly distributed, making it harder for some to adapt to the new situation and rebuild. Recognising the

dynamic character of vulnerability in such settings makes it necessary to consider how it has changed over time for the communities under examination. Our data interpretation of the survey in the context of the Iron Gates population displacements highlights that social vulnerability includes patterns of precarious housing, food insecurity, cultural marginalization and financial problems of the resettled people (Fig. 2).

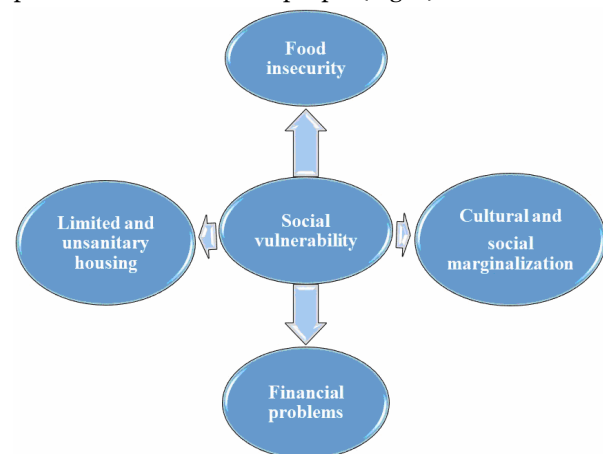


Fig. 2. Social vulnerability patterns as perceived by the survey respondents (source: authors' own interpretation based on the survey data).

Reflecting on experiences of displacement with the benefit of distance can enable the identification of the issues and experiences that were seen as most significant in hampering or facilitating adaptation. Memories of events related to mega-projects will be distorted by time but what remains can help distil what

was seen as most consequential (Crețan and Doiciar, 2023). This section draws on the experiences of members of the displaced communities to identify what they saw as key experiences before reflecting on the broader significance in terms of vulnerability.

From the survey data we identified three themes: loss of the home and financial support received by families for the construction of a new house and to ensure job retention; ability to adapt to a new physical-geographical space and a new home; and post-relocation impacts on local cultures, traditions, and customs.

### 5.1. Loss of the home and financial support

Home loss and financial problems proved to be a major issue for all the survey respondents. At the simplest level, for members of the affected communities, displacement resulted in loss of access to familiar settings, as these were inundated by the rising waters. The loss of a home has a significant effect, particularly where the resources available to replace what was lost are limited. Beyond the loss of material possessions, Murcia (2021, p. 1366) argues that the loss of home also represents “loss of a space where individuals deploy their everyday practices and where they expect to experience the sense of being socially, economically, politically, and emotionally and existentially embedded”. The suddenness further amplified the sense of loss, as one respondent stated: “The most painful and cruel memory that my family had was when it was raised the water level of the Danube without warning us. All family members woke up with water in the house, frogs and snakes floating everywhere. It was a tragic and shocking moment” (S., V., 69 years old male, Eșelnița, former accountant).

The sense of shock expressed in the quote demonstrates the vulnerability of the impacted communities, as the political environment at the time meant that the concerns and needs of the communities were subordinated to the needs of the state. The emotional cost of displacement is also captured in the vivid description of loss, rendered by the detail of animals inadvertently invading the space of home.

A related sense of loss also concerned the gardens that had been developed and maintained with care over time. Gardens were an important part of home life, enabling subsistence farming or fruit growing in a context of relative scarcity (on food self-provisioning see Daněk et al., 2022). Space was equated with a traditional ability to supplement waged labour with animal husbandry and agricultural activities perceived as part of Romanian rural identity. Discussing their experience, one respondent noted: “My new home was on a steep versant. Even if I had a garden behind my house I could not use it for planting anything. Was able to plant only some plum trees. My

former home in my born village was much larger and the yard was great, good soil, could keep animals. I lost all these now” (87 years old, male, Orșova, former worker).

### 5.2. The ability to adapt to a new physical-geographical space and a new home

Adaptation to the relocated space was a second important theme resulting from the data offered by the survey respondents. Lots allotted after relocation were, in general, smaller, providing less living and gardening space. However, the location of the new home was perceived positively by the respondents in Orșova, Dubova and Eșelnița, while most of respondents in Svințița were not happy with the new location of their houses due to the higher gradient of slopes in the relocated area (Fig. 3).

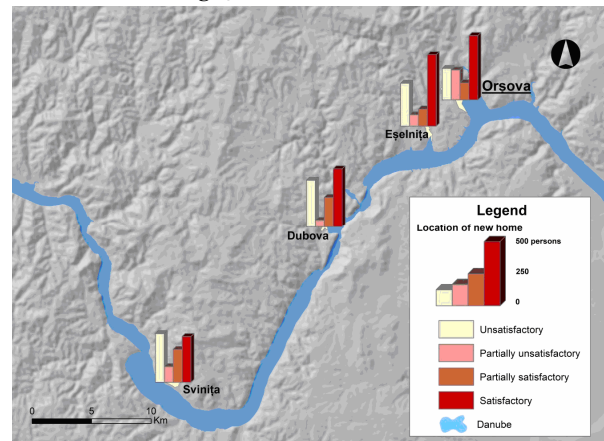


Fig. 3. Participants' opinions on the location of the new home (source: authors' own interpretation based on the survey data).

Losing access to this gardening space can be seen as inhibiting the ability of those relocated to adapt, as it required the purchase of goods that were previously produced at home, thus impacting on life quality (Fig. 4).

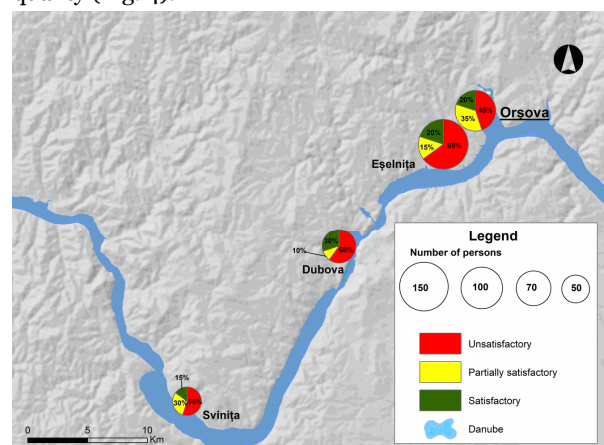


Fig. 4. Respondents' perceptions of their quality of life in relocated area (source: authors' own interpretation based on the survey data).

Moving to new communities and losing access to these public and private spaces had lasting impacts

on local traditions and practices. The displacement process also had more practical impacts, shaping the economic and spatial opportunities of those relocated. An important factor in this regard was whether the relocatees were from rural or urban settings. In Orșova, many rural to urban movers were resettled on the outskirts of the city, whereas previously they had lived close to the centre of the vanished villages. This was identified by one respondent as an issue that had become more apparent over time, arguing “When I was young it was okay for me to walk that several kilometres distance but now I am old and cannot go shopping or have simple walks to the centre of town” (85 year old female, Orșova). Those who moved from the old to the new Orșova had priority in choosing lots and therefore secured more favourable locations. Those moving to smaller settlements such as Eșelnița had more positive experiences, as the majority of homes were close to the central part of the village. Some relocatees were forced to live with relatives in localities not affected by displacement. Such social ties were important, as one respondent noted, “My family from Tisovița and I moved to Eșelnița because my brother moved there and we wanted to be close to each other” (O.U., 92 years old, male, Eșelnița, former industry worker). These narratives point to varying degrees of agency on the part of relocatees. The ability to exercise agency is not uniform, as reflected by Feng et al. (2021) when arguing that older people have fewer resources to adjust to the changed setting. The ability to adapt was therefore shaped by structural factors (Joakim et al., 2015) that are beyond the control of individuals, as well as by the ability of individuals to mobilise resources (Adger, 2006), such as social ties.

The economic impacts of relocation were considerable for some, particularly when dealing with the issues of compensation and employment. The need to construct a new house was a significant financial burden on many families, with state compensation payouts failing to cover the full cost of construction, plunging some of them into debt. The government designated a series of compensation bands, focusing on the structure and size of the house, with further distinctions made between urban and rural areas. There were additional conditions, such as those displaced from brick houses being obliged to keep the bricks (also sometimes windows, doors and roof tiles) from their demolished residence to construct a new home. Almost half the survey respondents stated that the compensation payments were not sufficient and they had to borrow or use savings to finish their home. Discussing the level of compensation, one respondent stated: “The mayor/town hall paid us 25 bani [pennies] per square metre, as that was the calculated value for lands at that time. That was nothing. 1 Lei was a bottle of juice, so what to do with 25 bani [pennies]?” (L.G., 72 years old, female, Eșelnița, former maid).

These results suggest that many of those who were displaced experienced some degree of financial injury that led to longer-lasting impacts. The presence of lasting effects reflects Birkmann’s (2007) argument about the dynamic character of vulnerability, as the initial disadvantage was compounded over time, increasing vulnerability, reinforcing patterns of inequality, and hampering adaptation. The effects of pre-existing vulnerability can be seen in the case of those who lived in apartments and were generally not able, or did not wish to rebuild after relocation. For instance, one respondent argued “We are a poor Roma family. We were 5 small children and my parents had no time to work on building a new brick house, so we chose to live in a small apartment” (N.C., 76 years, female, former housekeeper).

Displacement also had varied effects on the ability of individuals to continue or secure new employment. Standards of living were generally maintained before and after relocation, even when people were forced to seek work in other sectors, with most reporting the maintenance of a stable monthly income. According to the Mehedinți County Archives (1975), the national administration, regional Prefecture and Severin District Council worked in concert to ensure the economy of the area was relocated with its population. This entailed not only rebuilding the city but relocating its enterprises so that the inhabitants could retain the same job. Additionally, many rural residents had previously commuted to work in Orșova by bus, meaning the impact of resettlement was limited. At the same time, some respondents in Orșova and Eșelnița noted difficulties in adapting to jobs in the new setting, despite working in the same field of economic activity. This may have resulted from changes in industrial practices, as the enterprises underwent modernisation, meaning changed requirements. It can also be connected to the complex nature of vulnerability, as the loss of lifestyle stability meant they were less able to have access to local knowledge and social connections that they had previously drawn on (Castro and Sen, 2022). Those from the villages of Ogradena, Plavișevița, Tisovița, and Eșelnița Veche were further disadvantaged as they could not keep the same jobs because the mines and forests they worked in were destroyed or cut down to build new houses.

A final point of difference in relocated communities was between those moving between and within rural and urban settings. As noted above, those from rural areas tended to be settled in marginal spaces in Orșova, some distance from the centre. This can be linked to their position within a socio-political system that prized modernisation and industrialisation, marginalising those who did not fit this ideal. These difficulties were compounded by differences in the actual relocation itself. Relocation happened in two phases, with families being moved to temporary

accommodation while their new homes were being prepared. In cities, apartments were used for this purpose, whereas those moving between rural areas were forced to use poor quality barrack-type homes, each housing a family of five or six in two rooms. One respondent made the point that: "It was very hard during the move. We had to stay in barracks and it was awful to have eight people in a shack. Then the animals had to be sacrificed to have something to eat that we couldn't afford to buy food from the grocery store every day" (C., T., 80-year-old female, Eșelnița, former worker in local industry).

Conditions were described as harsh and lacking in basic facilities, with one respondent noting "The biggest problem was with building a decent toilet. We had to build it on a steep place" (R.D., 69 year old male, Orșova, former worker). Mouldy walls and leaky roofs were common, with nowhere to store food, furniture or clothes, meaning many families lost some or all of their belongings. The conditions faced by those moving between urban settings were also challenging, as they were moved to small apartments, all resulting in difficulties adapting to limited space, loss of privacy, and a sense of lost ownership.

### 5.3. Post-relocation impacts on local cultures, traditions, and customs

Impacts of relocation were obvious also in relation to the loss of traditions and customs. The loss of traditional village life resulted in residents losing access to religious and other community sites that had been significant to them. Zarandona et al. (2023, p. 4) note the significance of such sites as "the tangible, physical manifestations of cultures and their intangible customs.... [where] conservation and preservation are a social responsibility for future generations." The destruction or loss of access to a site of meaning may therefore represent a challenge to the preservation of memories and associated cultural connections. In the case of the relocation, the loss was a dramatic event that had a lasting impact on those present, with one respondent stating:

Our church in Ogradena was bombed, the army came and blew it up. The church bell rang for several hours uninterrupted, and then they lowered the church tower. Everybody took a piece of brick from the church with them and took it home as a sacred object. Shortly after, they blew up the church! (M., C., 75 years old, female, Eșelnița, former saleswoman).

By taking pieces of the church, the residents could be seen to have been attempting to preserve a sense of something that had been lost. The fact that not all such sites were dynamited, as some were left intact under the waters of the Danube, introduced a sense of uncertainty and arbitrariness around the value of cultural sites.

The destruction of some sites was seen by some as unnecessary, particularly where they were not going to be inundated. In this case, the destructive actions can be seen as driven from above for political reasons, as an attempt to exert control over the subject population. These actions represent an attempt to challenge and reshape a second, less tangible form of heritage as something "changeable... constantly produced and re-produced by social interaction, with negotiable and contested values" (Zarandona et al., 2023, p. 5). This is reflected in a statement from Sviņița priest who argued: "The church from Sviņița should not be bombed because the water of the Danube did not reach it, but the Communist Party mentioned that dynamites were needed to all churches. Here at Sviņița came the people from the uranium mine from Bigăr and blew it up. There was also a man from here who took part in the operation to blow it up. The next day he died in that accident. People say it was a punishment for helping to destroy the church" (L., C., 83 years old, male, former miner, Sviņița).

The destruction of the church represents the inflexibility of the state at the intersection of political power and technological interests (Dunlap, 2021), as those responsible were unwilling to change course once a decision had been made. When faced with change of this sort, the community may resist where there is an absence of respect for or recognition of tradition and an effort at preservation of associated practices (O'Brien and Crețan, 2019). The response of the community in linking the death of the worker to the destruction of the church can be seen as an attempt to reinforce the significance of the church to the community as more than just a building.

Both urban and rural participants said that their traditions, religious festivals, folk costumes, and folk music were lost over time. One respondent made the point that "we lost our old village traditions, many old songs and dances are not perpetuated anymore" (R.P., 91 years old, Orșova). Marginalisation of these practices was further exacerbated by social mixing as residents of the new communities were from a number of different villages. As noted elsewhere, internal migration and the mixing that results can lead to stigmatisation, encouraging individuals to adapt to the new social context (O'Brien et al., 2023). Generational shifts also played a role as younger residents moved out of the area to build lives in other Romanian cities. These developments point to the compounding nature of vulnerability, as the loss of access to sites and traditions resulted in community fragmentation and out-migration, further reducing the capacity of those remaining to adapt. Efforts were made by local and county authorities to ensure social and cultural celebrations were not lost. An example of this was the August 23<sup>rd</sup> celebration, which the regime had designated to celebrate the liberation from the fascists



in 1945 (Văran, 2017). Despite this, many local customs and traditions were lost in the relocation, as inhabitants were no longer able to maintain the old rituals and celebrations in the new settings (Văran and Crețan, 2020). The marking of religious festivals for the patron saints of the old churches that had been lost dwindled, pointing to the importance of sites in enabling cultural persistence and translation (Zarandona et al., 2023).

Summing up, the construction of the Iron Gates dam had considerable and lasting impacts on the displaced communities. As outlined above, vulnerability played a crucial role in shaping the experiences of those displaced and their ability to adapt. At one level, the impact on the communities reflected the tension between national and community interests (Neef and Singer, 2015). The construction of the dam had practical benefits for Romania, by increasing domestic electricity production in support of the drive for industrialisation. It also supported political goals by demonstrating solidarity and technical mastery in the relationship between Romania and Yugoslavia. For the displaced communities, the loss of religious sites, homes, and gardens, as well as more intangible social and cultural customs was echoed and deeply felt by the range of participants. The ability to adapt was also hampered by the inability to challenge or question the decisions of the state. By examining the experiences of the displaced communities over 40 years after the event, it is apparent that the scars caused by such an event remain for a long time in the memory of the community.

## 6. CONCLUSIONS

This article has examined the legacies of displacement caused by the construction of the Iron Gates dam in Romania, drawing out the shifting relationship between vulnerability and adaptation. In order to foster industrialization and support economic development, the communist-era Romanian state embarked on the construction of a number of megaprojects. One of the most significant was the Iron Gates dam on the lower Danube River.

The construction of the dam involved raising the level of the Danube, fueling a process of displacement and resettlement among some river-side communities. Despite efforts by the state to preserve communities through the recreation of settlements on new sites, those who were moved faced a range of social, economic, and cultural challenges to establishing new lives. Research on large-dams has examined the effects of construction internationally (Wilmsen, 2018; Gebresenbet and Wondemagegnehu, 2021), as well as the potential tensions between states over the use of shared water resources (Matthews and Vivoda, 2023). However, there has been less attention given to the effects of displacement on affected communities over a

longer term, particularly on how vulnerability shapes adaptation.

Our argument has centered on the role of vulnerability in inhibiting or facilitating efforts at adaptation, considering how social, economic, and cultural challenges can blend. Displacement of communities to enable the construction of the Iron Gates dam in Romania provides a valuable illustration of the longer-term impacts of disruption. The degree of disruption may appear to be relatively minor, as those displaced were resettled nearby, potentially allowing access to some existing facilities. Despite this, the respondents expressed a sense that considerable harm had been done to their well-being. Loss of access to culturally significant sites was coupled with a worsening of physical and economic conditions, as presented by participants who described loss of cultivatable land. Vulnerability is at the core of the ability of individuals to adapt to the new circumstances, with social ties enabling some to resettle more easily. Building on Birkmann's (2007) argument that vulnerability is not static, it is apparent that where vulnerability was present it was complex and multifaceted. Mirroring Castro and Sen's (2022) notion of everyday adaptability, it appears that the aggregation of elements of vulnerability over time identified the reduced adaptive capacity characterizing the experiences of those displaced.

Considering the experiences of displaced communities after such an extended period demonstrates the lasting impact of vulnerability. It also emphasises the ways in which displaced communities reflect on and interpret these experiences. This contributes to the existing work on displacement, adding a temporal dimension. The research also points to the possibility of examining generational differences tied to particular senses of place to develop a better understanding of the ways in which such experiences are transmitted and managed. The impacted communities recognized out-migration among the younger generations, raising questions about the extent to which this is tied to intergenerational vulnerability or part of a broader pattern.

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