

WASTE CULTURE IN THE LOCAL COMMUNITIES OF THE BÂRGĂU VALLEY IN THE DISTRICT OF BISTRIȚA-NĂSĂUD (ROMANIA)

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Abstract. Waste and refuse culture is a set of attitudes, habits and behaviors related to excessive consumption of material resources, their transformation into useless objects or debris and the ways they are stored as well. The Bârgău Valley is an ethno-cultural region located in the east of the Bistrița-Năsăud District, which includes the following municipalities: Josenii Bârgăului, Prundu Bârgăului, Tiha Bârgăului and Bistrița Bârgăului. The hereby study approaches this phenomenon in the local communities of the area, and methodologically offers the outline of the cultural profile of the inhabitants of the area in question, the connections of the local people with the refuse management and avoiding waste, the structure of refuse and its relevance, the legal framework for prevention, collection and recycling waste and people's habits regarding waste disposal.

Keywords: refuse and waste culture, the Bârgău Valley, waste management, environmental protection.

INTRODUCTION

According to the DEXLR, culture is the total of values both material and spiritual created by mankind and the implicit institutions necessary to pass on these values; all vestiges of material and spiritual life through which the image of a past human community is reconstructed; a series of activities and behavioral patterns typical of a given social group, conveyable through education. Within this context, waste and refuse culture is a set of attitudes, habits and behaviors related to excessive consumption of material resources, their transformation into useless objects or debris and the ways they are stored as well, either legally or illegally.

The points that define the culture of refuse and waste at the time being are as follows:

- Materialism, namely public concern for material goods (electronics, clothing, accessories, furniture, cars);

- Consumerism, more specifically the need of acquiring more and more goods, even if not indispensable.

The hereby study aims at the phenomenon in the local communities of the Bârgău Valley in the district of Bistrița-Năsăud, outlining the cultural profile of the inhabitants of the area, the connections of the local people with the refuse management and waste avoidance, waste structure and its relevance, the legal grounds for prevention, collection and recycling of waste and the locals' habits regarding waste disposal.

METHODOLOGY

In order to do this study there were made the following steps:

First, consulting the specialty literature on issues related to culture of refuse (Rathje, 1984; Rathje, 1991; Rathje, Cullen, 1992; Smith, Moe, Letts, Paterson, 1993 Trawick, Davis, 1999; Hawkins, 2002; Evans, 2014; Brown, 2015)

Second, studying the current legislation on waste management both within the European Union and Romania (The National Strategy and The National Plan for Waste Management, The Waste Management Plan for the District of Bistrița-Năsăud);

Third, consulting some sustainable development strategies for the villages of the Bârgău Valley (The Sustainable Development Strategy of the villages of Josenii Bârgăului, of Prundu Bârgăului, Tiha Bârgăului and Bistrița Bârgăului);

Fourth, field searches so as to locate and analyze the waste illegally stored by the local communities;

Fifth, creating and applying a questionnaire on the production and storage of the waste in local communities of the Bârgău Valley;

Sixth, consulting the specialty literature on the geographical risks involved in the area of Bârgău Mountains (Cioanca, 2013).

THE STUDY AREA

The Bârgău Valley is an ethno-cultural region located in the eastern Bistrița-Năsăud, comprising the municipalities of Josenii Bârgăului, Prundu Bârgăului, Tiha Bârgăului and the whole Bârgău Valley (Figure 1).

The region in question is crossed by the geographical axis of Prundu Bârgăului- Bistrița-Piatra Fântânele- the Tiha Pass-Vatra Dornei (DE 58), fact reflected in the intense movement of matter, information and energy flows in the area.

The importance of this geographical axis practically emerges once with the seventeenth century when the mail coach used to pass by on its way from Sibiu to Cernăuți, and gradually increases in the nineteenth century when the Franciscan Road (Via Regia) was being built, a road which made the connection between Transylvania and Bucovina, more specifically it linked the town of Bistrița to the town of Suceava. Moreover, between 1915 and 1939 the gas-fuelled electric train used to cross the region from Prundu Bârgăului to Dornișoara. Today, the Bârgău Valley is crossed by DN 17 / DE58, an important communication route, linking the North-Western developing regions (Cluj-Napoca) with the North-eastern ones (Suceava, Iași).

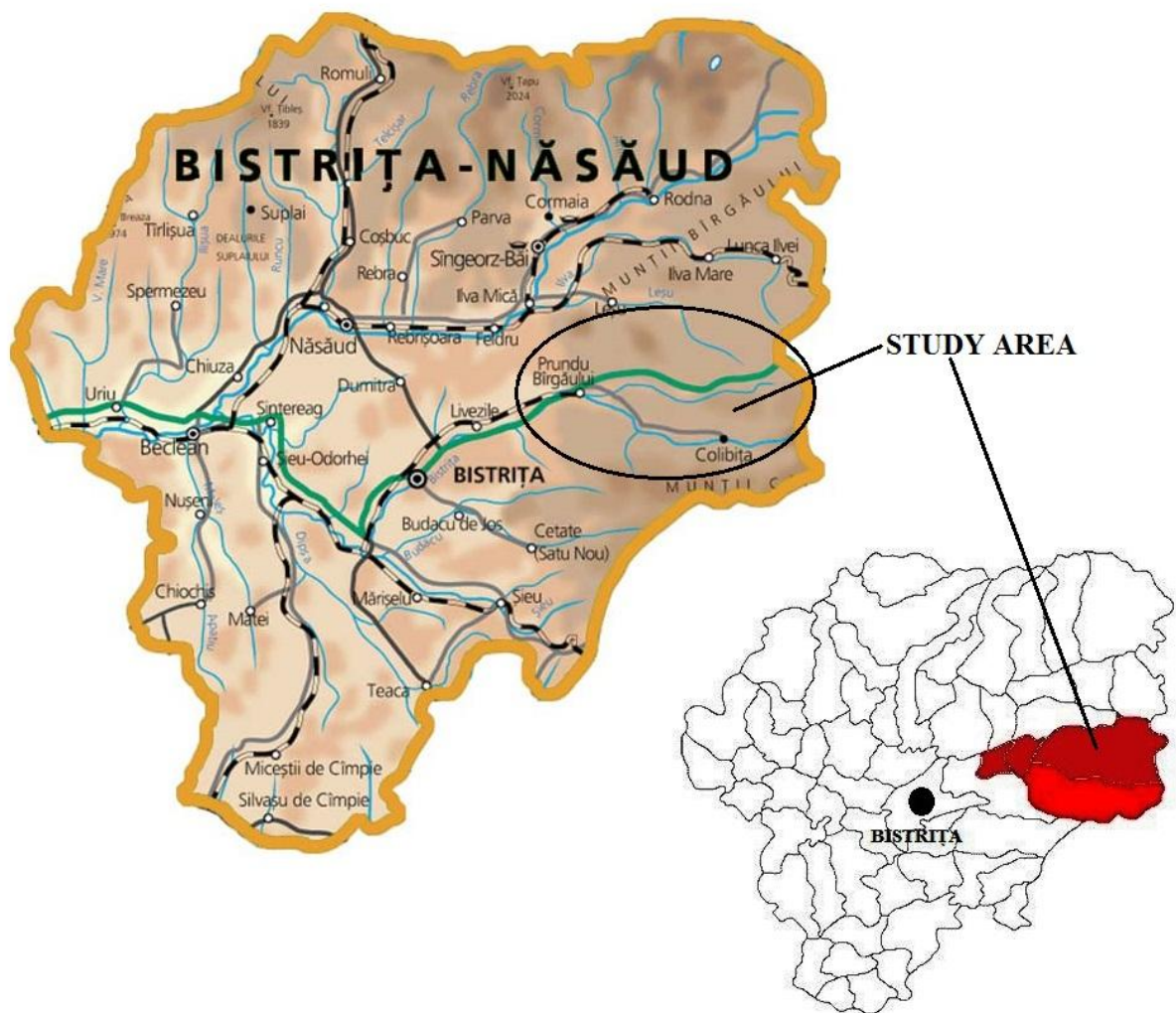


Figure1. The Bârgău Valley, geographically and administratively located within the district of Bistrița-Năsăud

The tourist objectives of the region are as follows:

- Bistrița, the residence town of the district of Bistrița -Năsăud;
- Prundu Bârgăului, the residence town of Prundu Bârgăului area (with industrial, commercial and cultural roles);
- Colibița, tourist attraction area;
- Piatra Fântânele, tourist attraction area.

RESULTS AND DISCUSSIONS

The cultural profile of the inhabitants of the Bârgău valley

The population of the Bârgău Valley is predominantly Romanian and is distinguishable through the following cultural features:

- 90% of the population belongs to the orthodox religion and 10% belongs to the cult of neo-protestant;
- 95% of the population has graduated from the compulsory school forms, 8/10;
- 90% of the population has access to mass media (radio, television, newspapers and the internet);
- 80% of the population deploys pastoral, agricultural and wood work activities, and 20% works in other economic branches (industry, transports, commerce).

The population`s connections with the refuse management and waste avoidance

In order to collect refuse in the villages from the Bârgău Valley, there have been signed contracts with different salubrity companies, providing each family with a waste container. On a weekly basis or every other week, these containers are picked up by the workers in charge. Because the taxes are too high, not all people conclude these contracts, thus illegally storing the waste produced in their own households, at the outskirts of villages, through forests, valleys or stream beds. This category includes not only the inhabitants of isolated areas, but also those in the centre of villages. Similarly certain schools which are not financially supported for sanitation services by municipalities carry out storing refuse in inappropriate places or they simply burn it (for instance, the Secondary School of Muresenii Bârgăului)

The sources of waste in the The Bârgău Valley

The waste produced by the human communities in the Bârgău Valley has as sources the following:

- Housework and household: household waste (food scraps, packaging, bottles, jars and plastic bottles), metal waste, plastic and rubber refuse, textile waste etc;
- School activities: paper, plastic, textiles, food waste etc;
- Economic activities: agricultural (crop residues), industrial (metal, plastic, construction materials, sawdust, etc.), transport (worn-out car pieces, plastic or metal, oil filters, etc.);
- Hygienic and sanitary activities: syringes, bottles, diapers, paper or paperboard packaging etc.

The waste structure in the communities of the Bârgău Valley

In order to determine the structure of waste deposited in restricted areas by the inhabitants of the villages from the Bârgău Valley, there have been completed two phases:

- making an inventory sheet of waste;
- carrying out certain surveys in several points with illegally waste

For the waste inventory sheet, there have been established the following headings:

- 1) Number sheet;
- 2) The administrative unit (village or small town) whose territory was covered by waste landfill;
- 3) The geographical unit where the waste landfill is: riverbed, minor slope, catchment area, forest area, grassland, pasturing meadows etc.
- 4) Locating the waste landfill: latitude and longitude;
- 5) The manner of waste disposal: areal concentrated;
- 6) The waste quantities: textile, metal, plastic, wood, rubber, organic, vegetable etc.

The measurements made at the points of The Lăzăroi Valley (Mureșenii Bârgăului), The Bârgău Coast (Mureșenii Bârgăului), The Prislopaș Valley (Tureac), on Doline (Prundu Bârgăului) and The Strâmbei Valley (Josenii Bârgăului) clearly showed the following structure of waste landfills (Figure 2) :

- Plastic waste (bottles, bags, boxes, bags, packaging, pipes, syringes, etc.);
- Textile waste (clothing, bedclothes, diapers);
- Food waste (bones, animal carcasses);

- Waste resulted from home producing alcohol (alcohol husks);
- Wood waste (sawdust, slats, planks, furniture, etc.);
- Metal waste (cans, pipes, wire, electronic products and home appliances, spare parts, bodywork, wheels);
- Paper waste (cardboard boxes, bags);
- Rubber waste (tyres);
- Glass waste (glass bottles, jars, glass windows).



Figure2. Illegally deposited waste in the catchment area of the Strâmba River (the village of Josenii Bârgăului)

The legal framework on waste management locally

The main tools imposing the EU policy regarding waste management are the National Strategy and The National Plan for Waste Management. Contrary to the previous period, this time the National Waste Management Strategy is based on reversing the priorities when tackling waste management problem. Thus, the algorithm includes: preventing, reducing waste production, reusing, recycling, energy recovery, treating and storing.

According to the Government Emergency Ordinance no. 78/2000 on waste, approved of within Law no.426/2001, the mayors of the territorial –administrative units and the authorized people on their behalf are in charge with the control of: generating, collecting, storing,

transporting and treating household and construction waste and even implementing their management plan whereas the local councils adopt:

- 1) Fees under the law for various waste management services;
- 2) Regulations regarding the conditions and procedures for the collection, including separate collection, transport, transfer, neutralization, use and disposal of household waste.

The local councils decide, under the law, to give priority and provide some lands with a view to creating depositing areas with recovery facilities and waste disposal places for the localities. The city halls and local councils are forced to ensure the cleanliness of localities through the following:

- a) Adopting an effective integrated waste management system through the waste collection, providing the conditions for the phased selective collection, the retrieval, the recovery, the neutralization, the incineration and the final landfilling;
- b) Implementing and controlling the system and its function;
- c) Providing equipment for the communication and transport means and the public places of waste collection with a sufficient number of containers for their separate collection;
- d) Selective collection and on-time transportation of the entire quantity of waste produced on the grounds of the localities;
- e) The existence of certain final repositories for the selectively collected waste appropriately sized and designed in such a way so as to protect health and the environment;
- f) Banning waste depositing in places other than the deposits set by town planning documentation;

The local councils are responsible for:

- Implementing some modern systems of waste collecting, storing, transporting and processing;
- Arranging special storage places in each locality;
- Coordinating sanitation services that comprise pre-collection activities as well;
- Not only collecting, transporting and disposing of solid wastes but also pre-organizing wastes recycling.

The local public administration, through its sanitation employees, is required to introduce packaging waste resulted from the selectively collected household refuse, into a scheme in order to be later on reused by an economically authorized overtaker.

According to the Government Decision no. 621/2005 regarding packaging and wrapping waste management:

- a) The local government authorities and institutions ensure separate collection of packaging waste resulted from household refuse through the following:
- 1) Public sanitation services under applicable current law (Figure 3);
 - 2) Spaces specially established and equipped by placing appropriate waste containers;
- b) The local government authorities and institutions shall provide further reuse of the amounts of the selectively collected packaging waste;
- c) For the homogenous application at the national level of the separate collection, the ways of labeling the containers for the different types of materials are determined according to the order of The Minister of the Environment, The Water Management Department and The Minister of Administration and Interior Affairs.



Figure3. Atypicalhome waste container for mixed refuse

The impact of illegal dumping on the environment

Illegal waste dumping in unauthorized and inadequately established places contravene the rules of environmental protection. Besides the fact that this waste aesthetically pollutes riverbeds, forests and communal roads, they are sources for the spread of germs into waterways and air, especially when located nearby tourist sites and green spaces for picnicking (for instance, the Lăzăroi Valley in the village of Mureșenii Bârgăului), or on the adjacent roads (Strâmba in the village of Josenii Bârgăului, The Prislopaș Valley in the village of Tureac).

Even if it is stored in heaps, the wind and stray dogs contribute to their dispersion so that the light waste (like textile or plastic) spreads over a very large area. If waste is being stored in the stream beds, the river floods contribute to its dispersal along the valleys, fact which affects the water quality and the aesthetics of minor beds.

Solutions to stop illegal dumping

Stopping the phenomenon of illegal dumping is difficult, because there are not yet applicable the provisions of the Districtual Strategy on Waste Management, more specifically the establishment of some special storage places in each locality (ecological landfills). Similarly by sanitation services in the Bârgău Valley, there is collected only household waste whereas the refuse resulting from constructions is being neglected. In this respect, it is necessary the establishment of some fenced perimeters for the waste to be stored in, later on being able to be ground on the spot with a mobile breaker with transporting band and be used for the local unpaved roads to be repaired and reconditioned.

Analyzing the locally sustainable development strategies within each locality, there was found that they do not offer concrete solutions for the waste management in the community but they come up only with issues of principle, such as:

- Applying the policies of preservation, prevention and modern technologies in order to minimize the pollution and the environment development;
- Making sustainable projects for pollution prevention;
- Making a partnership with all the parties involved so as to maintain the environment unpolluted;

- Promoting some economic activities with minimal environmental impact and cleaning up the existing ones;

- Deploying an efficient waste management and generating unconventional energy

The best solutions to eradicate this phenomenon harmful to the environment would be the following:

- Establishing ecological landfills for waste disposal within each human community;
- Applying severe sanctions to the people who deposit waste illegally.

As regards the latter case, there is another problem related to the supervision of suspicious areas which may become illegal landfills and another problem would be the personnel involved to carry out this surveillance (the local police, and the environmental protection officers in charge with the surveillance, etc.).

The actors involved in stopping illegal dumping are: the citizens, the mayors and municipal councils of the localities, The Districtual Council and the Environment Guard of Bistrița-Năsăud.

CONCLUSIONS

Due to its geographical position of the Bârgău Valley, the local human communities have access to all social, economic and cultural changes in the Romanian society. As such, the consumption of food, agricultural and industrial products (textiles, footwear, electronics, cars, etc.) is very high, fact which causes high production of waste. Similarly, large amounts of refuse are provided by raising constructions (rubble, construction materials, etc.).

Household waste collection occurs under the contracts of sanitation which the locals may conclude. From the data provided by SC Vitalia SA, a sanitation company operating in the region, only 70% of the population from the Bârgău Valley possesses sanitation contracts, the rest of them illegally dumping waste (resulting from housework, constructions, etc.).

The storage of waste in unauthorized and inappropriate places has the following causes:

- Relatively high fees;
- The habit of landfilling at random;
- The lack of an ecological education: the locals have not grown the habits of environmental protection;
- The lack of local landfills for waste disposal.

The structure of the waste quantities analyzed within this study highlights the following aspects of economic and cultural profile of the inhabitants of the Bârgău Valley:

- The permanent emancipation of the population;
- The access to all types of products on the market;
- A varied consumption;
- Openness to new and diversified products;
- The development of constructions.

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