Construction and Demolition Waste in Kosovo

A case study in the municipalities of Prishtina and Fushe Kosova

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In 2019 the Faculty of Urban Management (UM) of the Technical University of Berlin supported by the Department of Circular Economy and Recycling Technologies (CERT) of the Institute of Environmental Sciences and Technology of the Technical University of Berlin joined forces with the GIZ Kosovo office to organize a student research project.

- **26 students from TU Berlin** and **10 local students** from Kosovo came together

- Over **40 interviews and discussion** with stakeholders including public officials, private construction companies, CSOs, donors, and informal collectors.

- Aim to better define the current **Construction and Demolition Waste situation** in the country with focus on the Municipality of Prishtina and Fushe Kosova
Aim of the research

1. Status quo of construction and demolition waste in Kosovo
2. Operating model for collection and transport existing and proposed
3. Prevention, reuse and recycling of CDW
4. Incentives for prevention, reduction and reuse
5. Legal and policy framework
Status quo of construction and demolition waste in Kosovo

• While EU countries are moving to phase out the disposal of waste in landfills, Kosovo inventorized the existence of **1,572 illegal disposal sites in 2017** with the number expanding to **2,527 sites in 2019** (KEPA Report)
  → **50% increase** within a two year

• CDW comprises 37% of the total volume of illegally disposed of solid waste, equal to 583,000 tons in the whole of Kosovo. This figure is 3.5 times higher than the amount of CDW generated in one year in the entire country (KEPA)

Figure 1. Illegal Disposal by Fraction  
Source: Adapted from (KEPA, 2018)
Status quo of construction and demolition waste in Kosovo

- The number of constructions permits issued during the 6 years from 2012 to 2018 increased from 100 to 186 in Prishtina.
- In Fushe Kosova the number of permits issued between 2015 and 2018 decreased from 52 to 33.
  - Based on the number of building permits issued and using the Solís-Guzmán formula (2009) we calculated that Prishtina and Fushe Kosova respectively contribute 269,396m³ and 62,604m³ of CDW to the total waste generation in Kosovo.

- One significant issue is the lack of data on CDW, thanks to limited research on the topic.
- In the Prishtina and Fushe Kosova municipalities the issue of illegal CDW disposal sites is growing. In addition, CDW is not being managed according to European standards.
  - As a result of this mismanagement, CDW is the largest category of illegally disposed of waste in the country.
Illegal dump site over the years in Rruga e Parkut te Pishave, Sllatine e Vogel, Fushe Kosova municipality

Source: Google Earth, 2019
Operating model for collection and transport - existing and proposed

- Collection and transportation of CDW are a crucial part of the life cycle of waste, integral to the functioning of the whole waste disposal system and its financial viability.

- While Article 9 of Administrative Instruction 07/2015 regulates the licensing of companies for the transportation of CDW, as of May 2019 no company is licensed for that purpose (MESP and KEPA representatives).

- Primary modes include transportation by:
  - the construction company itself
  - a company subcontracted by the construction company
  - via a specialized contract with public waste companies
  - informal collectors
What is happening to CDW in Kosovo?
Prevention, reuse and recycling of CDW

• Aim to evaluate the current status and future trends in prevention, reuse and recycling of CDW in Kosovo.

→ overall, minimization of CDW at source, and reuse or recovery of materials are not common practices in the construction sector in Kosovo

• The estimated number of jobs created in the construction and demolition recycling industry in comparison to landfilling is 25 to 1 (Winkler 2010, p.3)

• According to stakeholders from the public sector, recycling and reuse of CDW happens as a response to private market demand rather than in response to a top-down governmental framework.
Prevention, reuse and recycling of CDW - vstatus and outlook

• An overlooked aspect of mitigating CDW is the minimizing of waste generation in the first place

• The most evident means of reducing CDW are tied to the building process itself, namely in the amounts of materials used and building longevity.

➢ High amounts of energy and resources used by the construction sector. In Europe, the full-life cycle of buildings (including extraction, manufacture, transport, construction and end of life) is responsible for half of all energy use, 40% of all greenhouse gas emissions, 50% of all raw material extraction and a third of all water use (European Commission 2019)

• As a result, the EU has defined ambitious goals to improve “resource efficiency and circular material flows”.

Prevention and recycling in Kosovo

• Recycling and reuse of CDW in Kosovo is conducted through cooperation between the private and informal sectors.
  ➢ Izolimi Plast company (Prishtina) produces building materials from recycled plastic
  ➢ Ndertimitari (Peja region) produces clay bricks out of recycled inert material.
  ➢ Fidani-Beton and Ndertimitari, cement manufacturing companies, have installed equipment for recycling leftover concrete on building sites, to prevent it to be dumped into the environment. (Construction companies generally order at least 20% more concrete than is required.)
Incentives for prevention, reduction and reuse

- Currently, there is a lack of effective incentives in Kosovo for the prevention or reduction of CDW at the initial stages of the construction process, including awareness, design, demand, and supply.

- Few incentives that do exist relate to the informal sector and have a limited, small-scale impact: for instance, the recycling of steel, the reuse of building elements such as windows and doors, and the use of wood for heating.

- Using recycled materials in the construction of new buildings or for the restoration of existing buildings is not economically competitive in terms of cost when compared with conventional construction projects.

- CDW management was not included in the political agenda of past administrations as more pressing issues demanded their attention.
Further efforts are needed to **raise awareness on the performance potential** of more environmentally friendly materials such as recycled or reusable materials, alongside the application of quality standards certification of reused materials, which could incentivize those who are undecided about trying new materials for construction.
Practices in Prishtina to incentivize reuse of existing buildings

• **Television network Klan Kosova’s** building is one of Kosovo’s first examples of the transformation of an industrial building -- recycled CDW was used as construction materials, including bricks from houses burnt down during the war and recycled railway sleepers for the façade.

• **Menza** involved the revitalization of a 1960s canteen building conversion from a derelict building to a new restaurant enabled it to sell itself as a unique offering.

• **Ndërmarrja Publike Banesore** (Public Housing Enterprise), project has a social impact and is supporting housing associations within public housing to build more energy-efficient structures.

• **Green Business Kosovo** is a digital green energy platform encompassing environmental, social and innovative incentives.
Legal and policy framework

• Aim to evaluate the legal and policy frameworks related to the field of CDW Management in Kosovo

• The majority of Kosovo legislation is taken from European Union (EU) or American (US) standards, and many of the interviewed stakeholders said this is a possible source of ambiguity as the framework is no “contextualized” to adapt to Kosovo

• Municipalities is the legal actor charged with the greatest responsibility in the management of CDW
  ➢ Implementing and enforcing legislation as determined by the ministry (Law No.04/L-060 On Waste, Art.15.1, 2012) for the entirety of the operational flow
  ➢ Obligated to remove public waste dumps (Law No.04/L-060 On Waste, Art.15.5, 2012)
  ➢ Responsible for conducting inspections alongside ministry inspectors and implementing fines for infractions (Law No.04/L-110 On Construction, Art.29, 2012).
  ➢ Issue construction and demolition permits for Category I and II projects, that is, smaller infrastructure projects (Law No.04/L-110 On Construction, Art.19.2, 2012).
  ➢ Allocate land for future disposal sites for all kinds of waste in their waste management plans.
CDW legislation hierarchy in Kosovo
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