Eastern Germany: Abandonment and Reuse

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While many communities in the U.S. face issues with blight and abandonment, cities in eastern Germany face similar problems with roots in their communist history. In the German Democratic Republic, the communist government quickly built many pre-fabricated concrete apartment complexes to provide housing for its residents; between 1970 and the fall of East Germany in 1994, almost two million pre-fabricated structures, or Plattenbaus, were built, housing about 30% of East Germans (Nipper, 2004, p. 64). After the reunification of Germany, residents largely abandoned these structures as they moved to western Germany in search of better economic opportunities; between 1989 and 2010, over four million people migrated from eastern to western Germany (Wiechmann & Pallagst, 2012, pp. 2-5, Feffer, 2013). In 2005, there were over one million empty apartments in eastern Germany (Hawley 2005). Since then, there has been several efforts to remove, reuse, or add additional floors to these Soviet-era structures.


Figure 1 East German Plattenbau

In terms of reuse, some Plattenbaus, such as in Magdenburg, were spared from demolition to serve as housing for refugees and asylum-seekers fleeing persecution in the Middle-East (Coburn 2016). In 2016, nearly 200 new asylum seekers arrived in Magdeburg each week, and several other cities-- Halle, Neubrandenburg, Cottbus, and Schwedt-- are also converting their Plateaus into temporary housing for asylum seekers (Coburn 2016. To read more click here). Also in hopes of reusing the concrete slabs, in 2005-2006, several architects used abandoned Plattenbaus to build smaller, modern homes by taking apart small sections of the concrete structures and transforming them into single-family homes (Hawley 2005, Pommereau


Figure 2 A single family home built from a deconstructed Plattenbau

2010). Unfortunately this was not particularly widely used practice due to the difficulty of transporting the heavy concrete. In addition, in eastern Berlin, there are plans to experiment with adding more floors onto the roofs of plattenbaus in the city to serve the growing need for more housing (O'Sullivan 2018).

While these are all innovative solutions, they are not particularly wide spread. In fact, most of these buildings are being removed via demolition as more and more people leave eastern Germany. While Germany has made efforts towards more sustainable building practices, especially in the west and in Berlin, such as green roofs, more solar panels, and permeable asphalt to help mimic the naturally porous ground, a more comprehensive plan could be put in place to address the urban shrinkage and resulting structural abandonment and inequality in the east (Connelly 2015).

Domicology encourages the reuse of materials when a structure has met the end of its useful life. While much of our research in Michigan focus on wood recovery due to its abundance in Midwestern architecture and current lack of widespread reuse, concrete is an easily reusable material and one often ground up and repurposed into gravel for pavement projects or used to make new concrete if it is not contaminated. Recently, German recycling experts Angelika Mettke and Walter Feess have developed a way to clean contaminated concrete, therefore increasing its possibility for reuse while trying to keep concrete construction and demolition waste out of Germany's landfills and countryside (Jäger 2016. More here.). In addition, Berlin's Senate voted

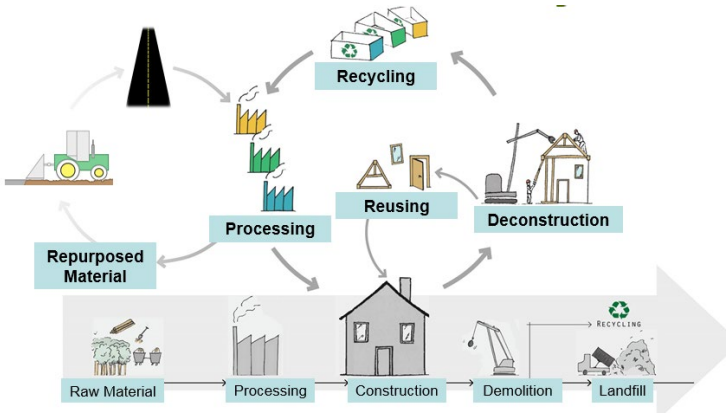

Figure 3 C&D Circular Economy

that future high-rise structures in the city will use recycled concrete and many residential and community buildings in German are already built from recycled concrete (Jäger 2016). Reuse of this material will help reduce its environmental impacts by reducing the amount of raw materials (sand and gravel) dug up during the "pit mining" process of concrete creation (European Commission 2017, p. 1).

A report released by the European Union regarding the management of construction and demolition waste stated that the EU can achieve a zero percent landfilling of concrete by 2020 (Bio Intelligence Service, 2011, pp.6, 37). A potential landfill ban on concrete would aid in forcing used concrete into several different reuse purposes and markets. Because concrete has so many reuse possibilities, and the development of the concrete cleaning process allows for more reuse possibilities, concrete should not just be demolished and left in landfills, but reused. In eastern Germany, with the job shortage and large number of abandoned structures, the state could create many deconstruction jobs through any unavoidable removal of Plattenbaus and create more jobs than through demolition. Similarly in the U.S., any removal of deteriorated government buildings or public housing should be deconstructed, and municipalities should strive for a high reuse rate on the materials.

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