



# Corrigendum: Environmental Justice and Green Infrastructure in the Ruhr. From Distributive to Institutional Conceptions of Justice

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## A Corrigendum on

### Environmental Justice and Green Infrastructure in the Ruhr. From Distributive to Institutional Conceptions of Justice

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A change in the acknowledgment has been made. The updated version is inserted below:

Special thanks to Kristina Ohlmeyer, Mathias Schaefer, Madeleine Kirstein, Dietwald Gruehn, and Stefan Greiving for conceptualising and conducting the environmental justice analysis for Bottrop and Dortmund. The analysis was done in Working Package 3 as part of the research project ZUKUR and its result was invaluable for writing this paper. Their work is published in Ohlmeyer et al. (2021) and Bakunowitsch et al. (2019), 91–145. Prof. Harald Zepp deserves thanks for allowing us to use **Figure 2**.

In the original article, there was an error. A correction has been made to THE NOTION OF ENVIRONMENTAL JUSTICE, Paragraph Number 6. Also, a citation (Bakunowitsch et al., 2019) has been inserted to this paragraph. Corrected paragraph is inserted below:

The City of Berlin was one of the first local governments to develop an environmental justice concept (Köckler, 2017), thereby providing for a detailed description of the environmental quality in each of the city's 447 planning areas (SenSW, 2015). The city used a two-stage process to examine environmental justice, including five core and a number of complementary indicators. Noise exposure, air pollutants, bioclimatic burden, access to green and open spaces, and social hardship belong to the core indicators. Complementary indicators provide for a more in-depth understanding of the situation in various neighbourhoods throughout the city. The available data were aggregated and multiple-load maps created. Berlin's approach served as a model for the environmental justice analysis carried out within the research (Bakunowitsch et al., 2019).

In the original article, Ohlmeyer et al. (2021) was not cited as it has been accepted only recently for publication. A text correction has been also made to this paragraph. Corrected paragraph with new citation is inserted below: A correction has been made to METHODOLOGY, Paragraph 3, 4, and 5 as well.

The section should start with:

As mentioned in the acknowledgment Kristina Ohlmeyer, Mathias Schaefer, Madeleine Kirstein, Dietwald Gruehn, and Stefan Greiving conceptualised and conducted the environmental justice analysis for Bottrop and Dortmund (Bakunowitsch et al., 2019; Ohlmeyer et al., 2021, 91–145).

Environmental benefit takes into account two indicators, i.e., supply as well as accessibility of public green and open space. When it comes to the supply side, the size of public green and open space per inhabitant is the determining factor. The actual situation was compared by referring to a value proposed by the Deutscher Städtetag (German Association of Cities) in Berlin, namely 6 m<sup>2</sup>/person (SenUVK, 2017). The ultimate goal was to find out if there was an oversupply or shortage in the provision of public green and open space. Concerning accessibility, public green, and open spaces were first divided into two categories: (1) those larger than or equal to one hectare but <10 ha; and (2) those larger than or equal to 10 ha. The distance thresholds for each category were set at 500 and 1,000 m, assuming that larger spaces imply a higher degree of centrality to visitors. Next category is environmental burden consisting of three indicators related to noise and air pollution. Noise is the result of a variety of sources, each with a varied duration and intensity. For this analysis, all noise pollution isotopes were combined and the spatial share of noise isotopes per statistical district was calculated using intersection processes. Concerning air pollution, the percentage area per statistical district was calculated by using the 1 × 1 km emission raster.

Another category is climate-related extreme events; it includes hot days, tropical nights and flood risk. A mean value was determined for each statistical unit using vector data of hot days and tropical nights from 1989 to 2010. The flood hazard mapping gave crucial information on the spatial scope of a potential flooding event. The percentage of residential area, mixed use

area, and area with critical social infrastructure that are at risk of flooding was calculated for each statistical district. Lastly, the percentage of welfare recipient is used as an indicator for the category of socio-economic status. Percentage of SGB II and SGB XII recipient was calculated for each statistical district. Since the availability and accessibility of social and health data is rather limited, partly due to the data privacy, diversity of indicator is not achieved.

A correction has been made to FINDINGS, Paragraph Number 3 as well. The reference must be **Figure 4**.

The multiple-load map of Bottrop (**Figure 4**) shows multiple-stressed areas in Bottrop.

A citation (Bakunowitsch et al., 2019) has now been inserted in the section on FINDINGS, Paragraph Number 3.

A citation (Bakunowitsch et al., 2019) is missing in the section on FINDINGS, Paragraph Number 6.

The source Bakunowitsch et al., 2019 needs to be added in the captions of Figures 3–6.

**Figure 3.** Result of spatial analysis for each indicator (Bottrop) (source: Bakunowitsch et al., 2019, 120).

**Figure 4.** Multiple-load map for Bottrop (modified from source: Bakunowitsch et al., 2019, 117).

**Figure 5.** Result of spatial analysis for each indicator (Dortmund) (source: Bakunowitsch et al., 2019, 124).

**Figure 6.** Multiple-load map for Dortmund (modified from source: Bakunowitsch et al., 2019, 121).

The authors apologize for this error and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

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