

2.2.3. Number of masonry houses

UESF gives information of the configuration of houses as detached, semi-adjointing (adjoining on one side), or adjoining (adjoining on two sides), and separate them by location (urban or rural). For masonry houses, UESF contain information of material unit (handmade clay brick, hollow clay brick and concrete block) but not of the construction technique, equivalent to masonry buildings.

The methodology used to obtain the total number of masonry houses, in each of the four defined structural typologies (Table 1.2), in each census block is the following:

The houses of the UESF data were separated in 18 categories by configuration condition, material unit, and location (e.g. detached masonry houses with concrete block in urban areas, adjoining masonry houses with handmade clay bricks in rural areas, semi-adjointing masonry houses with hollow clay bricks in urban areas, etcetera). These percentages are applied to the prior 2002 masonry houses from 2002 Census to obtain the number of houses in each category. At each census block, the number of houses from UESF is added by assuming a uniform distribution of UESF houses in the census blocks. At this point these houses only consider material unit and not construction technique. The UESF information is used to separate hollow clay brick houses into confined or reinforced masonry according to the assumptions presented for masonry buildings in Table 2.1 in Section 2.2.1. The handmade clay brick houses were also separated in confined and unreinforced masonry. Finally, the total number of masonry houses per structural typology is obtained at each census block.

The configuration condition of houses (detached, semi-adjointing, adjoining) is important to estimate the number of structures and not only the number of dwellings. When a dwelling is identified as a house in the 2002 Census, it is assumed to represent one structure. It is then classified as detached, adjoining or semi-adjointing using the distribution obtained from the UESF for that exterior wall material. As house typologies presented in Ortiz et al. (2014) do not include the number of houses adjoined to classify them, the number of dwellings is considered the same as the number of structures, but classified as detached, adjoining, and semi-adjointing houses. Even though two semi-adjointing houses can be one structure, three, four or more adjoining houses can also be one structure; these assumptions are not included in the National Exposure Model, because UESF information does not give the information of the number of adjoined houses per structure. Therefore this assumption overestimates the number of houses in exposure model.

A detailed example to obtain the number of masonry houses per structural typology is presented in Appendix C.