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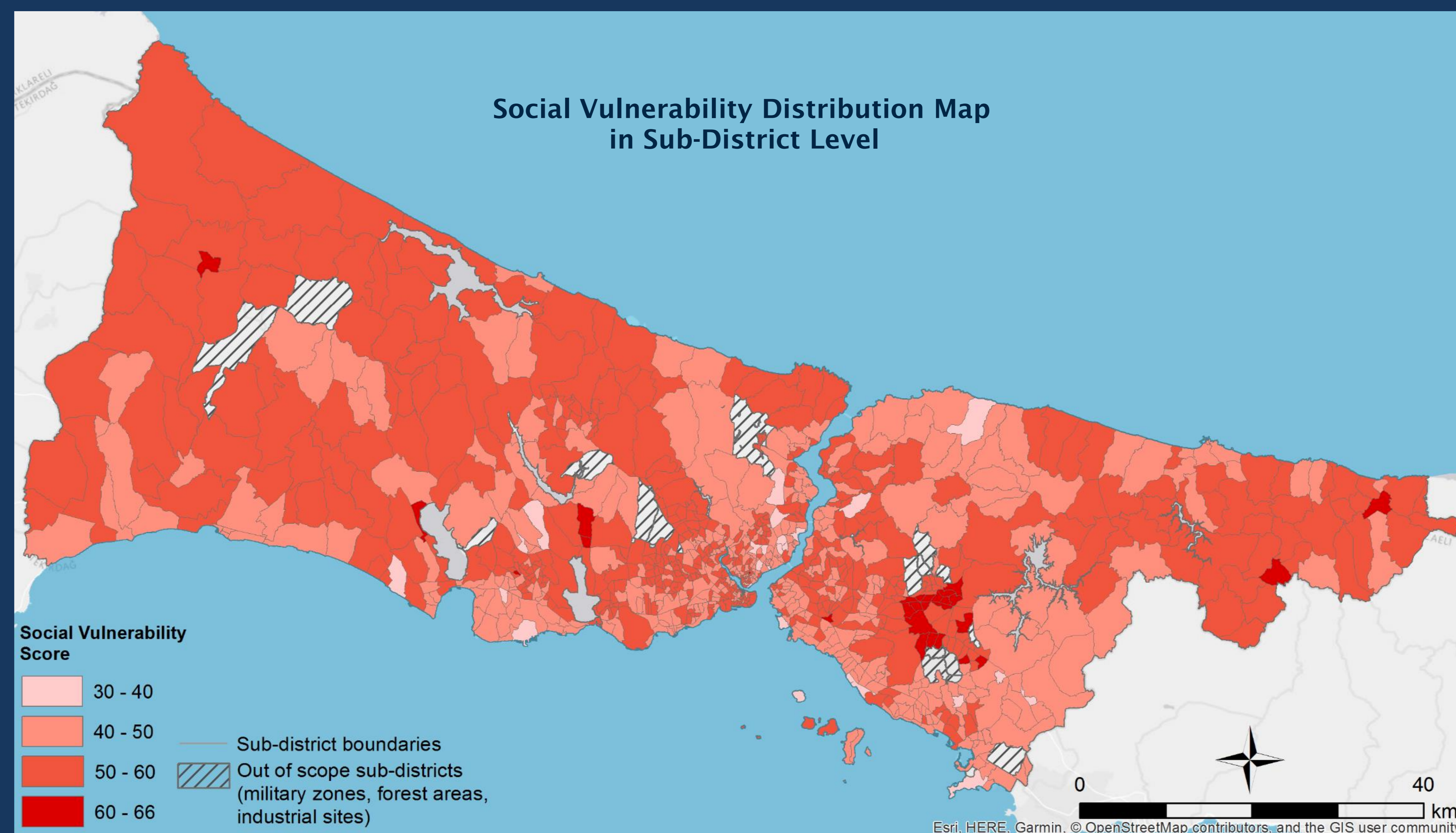
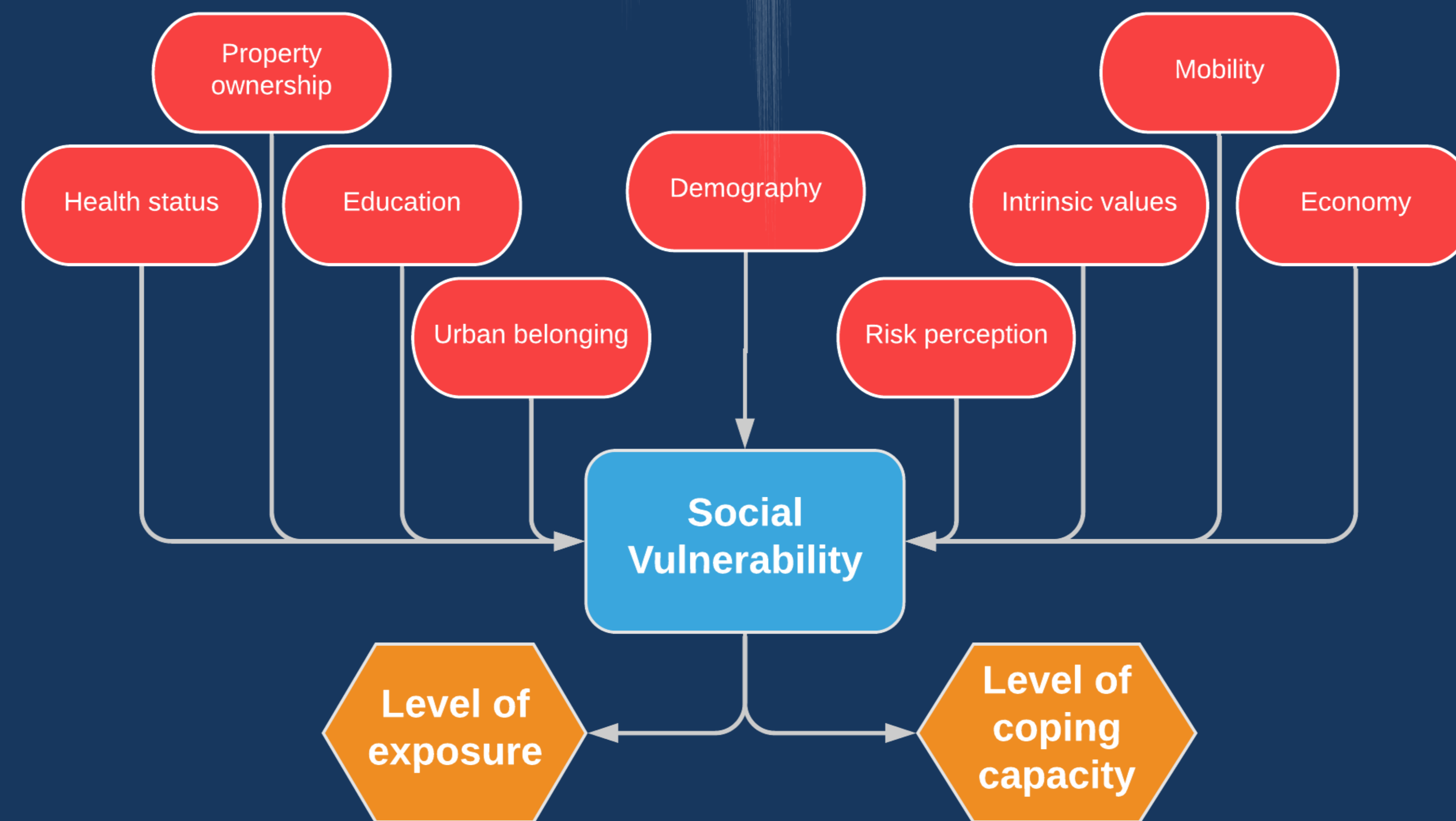
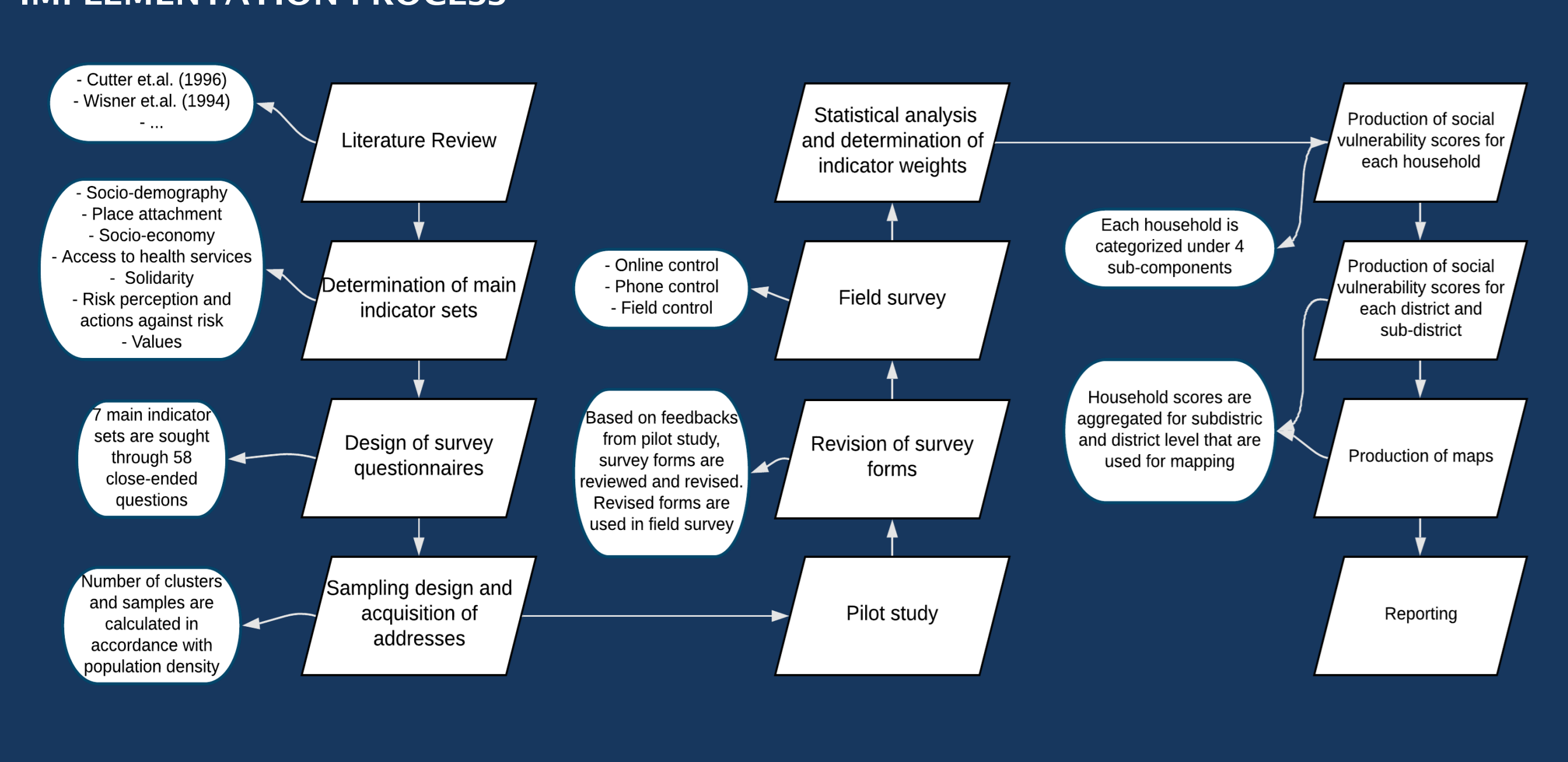
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Disasters are multi-dimensional events that occur as a result of the interaction of hazards with the conditions of exposure, vulnerability and capacity levels (UNISDR, 2017). Although the most significant indicators of disasters are physical such as loss of lives, properties and assets; social dimension is mostly under estimated which should be considered as a component that influences the level of risk and level of recovery period as well. Istanbul has been exposed to earthquakes through history and suffered from them heavily but although several studies were carried out to analyze possible physical losses due to a future earthquake; social aspect has never been assessed in detail. In this regard, Directorate of Earthquake and Ground Research of Istanbul Metropolitan Municipality carried out a social vulnerability research in Istanbul; which is based on 40.000 household surveys covering the whole jurisdiction boundaries of the metropolitan municipality. The study covered all 955 sub-districts with residential occupation and as a result, social vulnerability score for each household, sub-district and district is calculated.

The research is composed of three stages. First stage includes the literature review, determination of relevant indicators to evaluate social vulnerability level, production of household survey to provide data to indicators and validation of household survey through pilot survey. The selected indicators have been socio-demography, urban belonging, socio-economy, access to health services, social solidarity, risk perception and actions taken to reduce risk and values. In line with these indicators, surveys are designed and carried out in pilot level to validate the efficiency and applicability of the surveys. In second step, validated household survey is applied in city scale via face to face interviews. The interviews are carried out with a household member between the ages of 18 and 70; who can give relevant information about the household. In third step survey results are analyzed and statistical tests are applied on indicators in order to test the representation quality of the indicator themes. As a result, indicators of socio-demography, socio-economy, risk perception/actions and values are validated for analysis.

As a result of this research; social vulnerability level of each household has been calculated and evaluated which is then assigned for each sub-district and district. According to results, it is found out that; although their level of risk perception is relatively high, Istanbul's inhabitants lack taking precautions against disaster. This is because they perceive risk in a broader context and do not feel any responsibility about the overall risk. More specifically society usually admits risk as a responsibility of God or in some cases government. It is also notable that, although socio-economic level and social vulnerability level are assumed as highly correlated in literature; in some cases other factors such as risk perception, socio-demography and values play more important role than socio-economic level. With this research a gap in disaster research, social vulnerability of Istanbul against disasters, is understood in depth detail within different scales. Therefore, study results will play an integral role in developing right actions to reduce disaster risk in Istanbul.

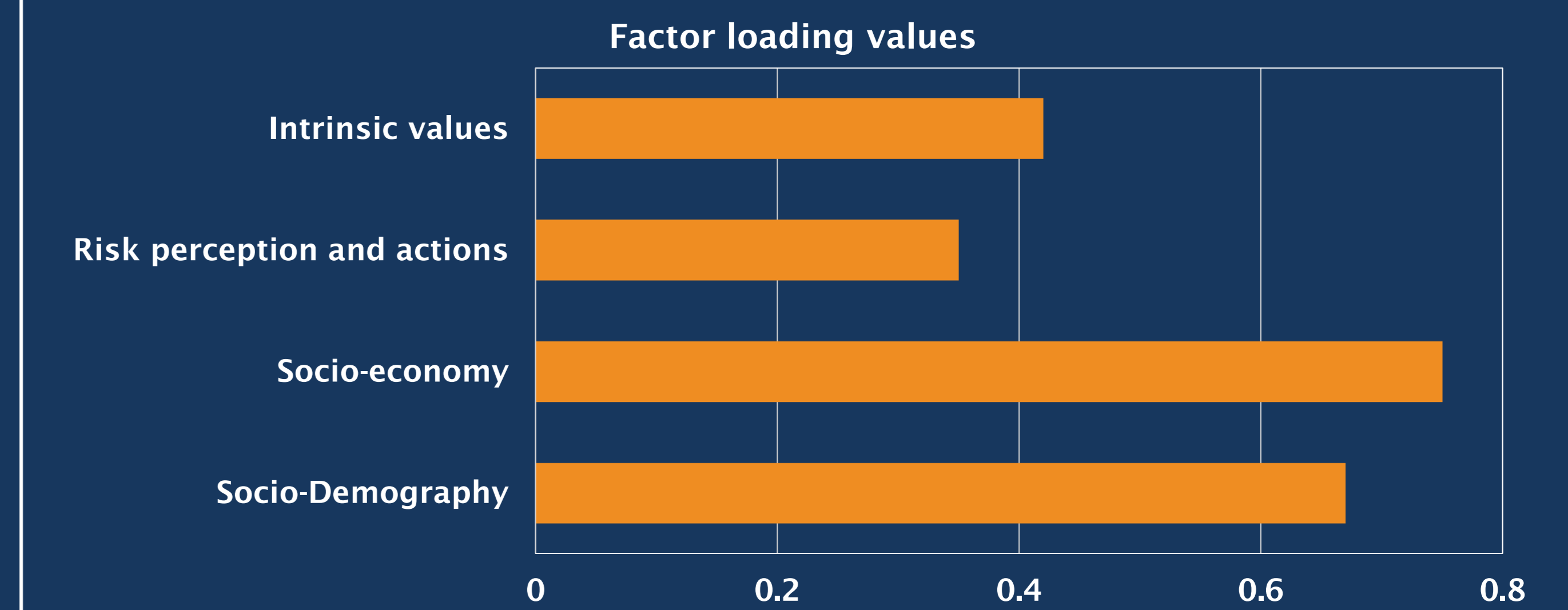
Social vulnerability research is a complementary part of «Megacity Indicator System for Disaster Risk Management – MegaIST project carried out by Istanbul Metropolitan Municipality's Directorate of Earthquake and Ground Research.



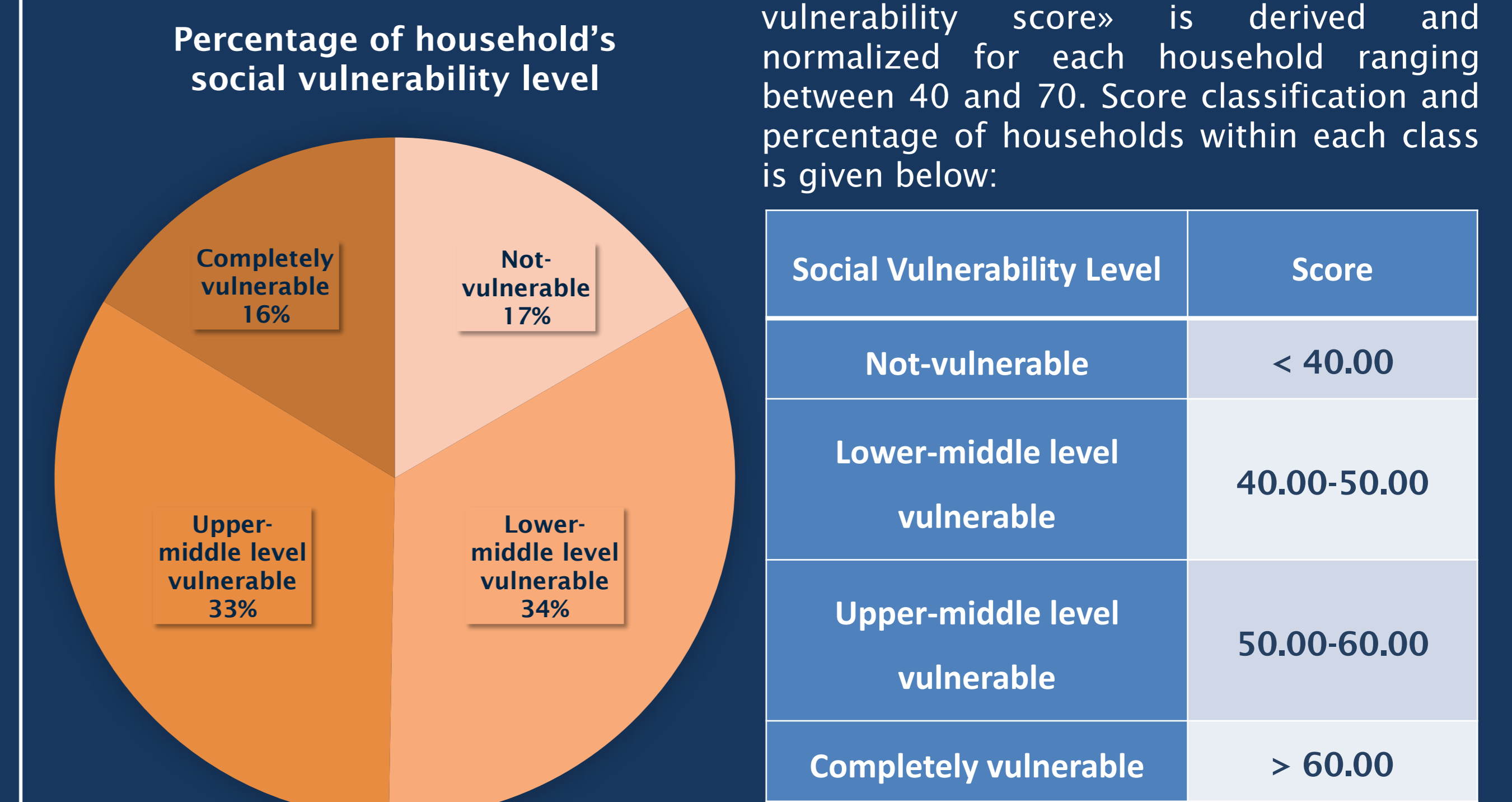
- Average age: 35
 - Average household population: 3.4
 - Average education length: 8.8 years
 - Mostly settled in Istanbul for a long term
 - Have effective Access to healthcare services
 - High ratio of dependent population
 - More than half has the ownership of their house
 - Lack of will to involve and participate for a safer living environment.
 - More than half depends on single income
 - By economical means, low level of solidarity between relatives
 - Low level of risk perception and lack of actions to reduce risk
 - Main information source is media
- Governments are seen as the main responsible bodies for taking precautions against disasters.
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The analysis results prove that despite the variety of the sub-components and indicators; only four indicators show significant impact on social vulnerability level in Istanbul. Based on factor analysis; it is seen that «intrinsic values», «risk perception», «socio-economy» and «socio-demography» are the main indicators that are relevant within analyses.



As a result of the factor analysis, «social vulnerability score» is derived and normalized for each household ranging between 40 and 70. Score classification and percentage of households within each class is given below:



As a result of this study, it has been found out that there is a significant correlation between socio-economic status (SES) and social vulnerability level of the households where in most cases, SES and social vulnerability levels act similarly. On the other hand, it is seen that demographic structure and risk perception can also be a determinant factor in some cases. In other words, in order to evaluate social vulnerability against disasters, it is critical to understand how society perceives notion of risk and takes measures against it. Meanwhile these actions are strongly related with intrinsic values of the people and such values are also decisive for interpreting the social vulnerability pattern of the society. Therefore in order to ensure resilience against disasters, people must be enlightened about risk and their perception level must be increased. Thereby, society will be able to motivate institutions and responsible bodies to take robust actions to reduce disaster risk.