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DEVELOPMENT OF AN INTEGRATED MODEL FOR DISASTER RISK MANAGEMENT BASED ON LADM (ISO 19152) FOR RECIFE-PE, BRAZIL

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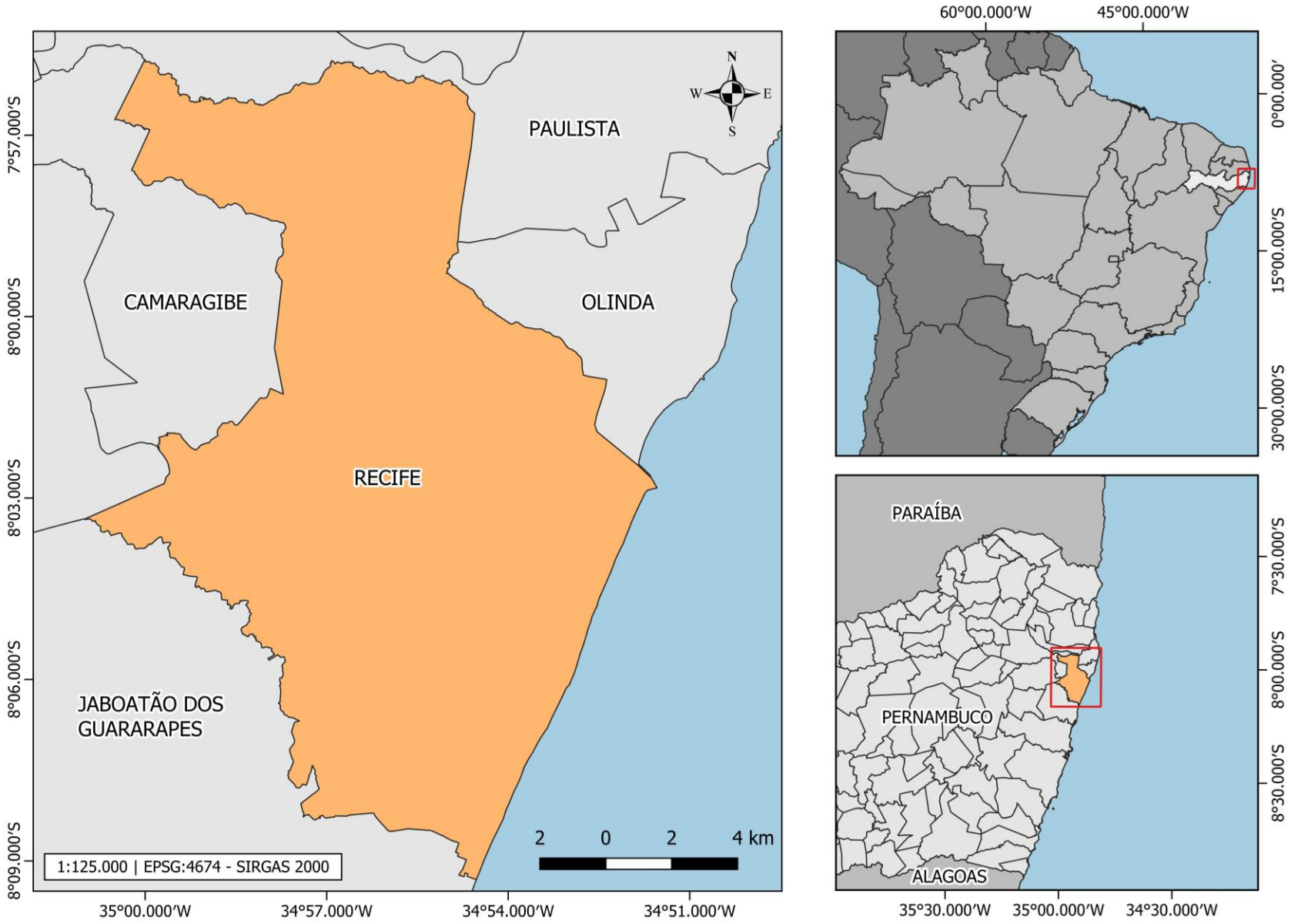
RECIFE-PE, BRASIL



DRM – DISASTER RISK MANAGEMENT

Disaster risk is defined as the result of the interaction between Vulnerability, Exposure, and Hazard associated with climate change.

In this context, Unger (2019) developed the LA-DRM (Land Administration for Disaster Risk Management) module as an extension to the Land Administration Domain Model (LADM) – ISO 19152.

This study adopts the LA-DRM module.

The publication of studies that address the application of these methodologies is pertinent, enabling public managers (or policymakers) to apply them.

MODELLING THE LA_DRM FOR RECIFE

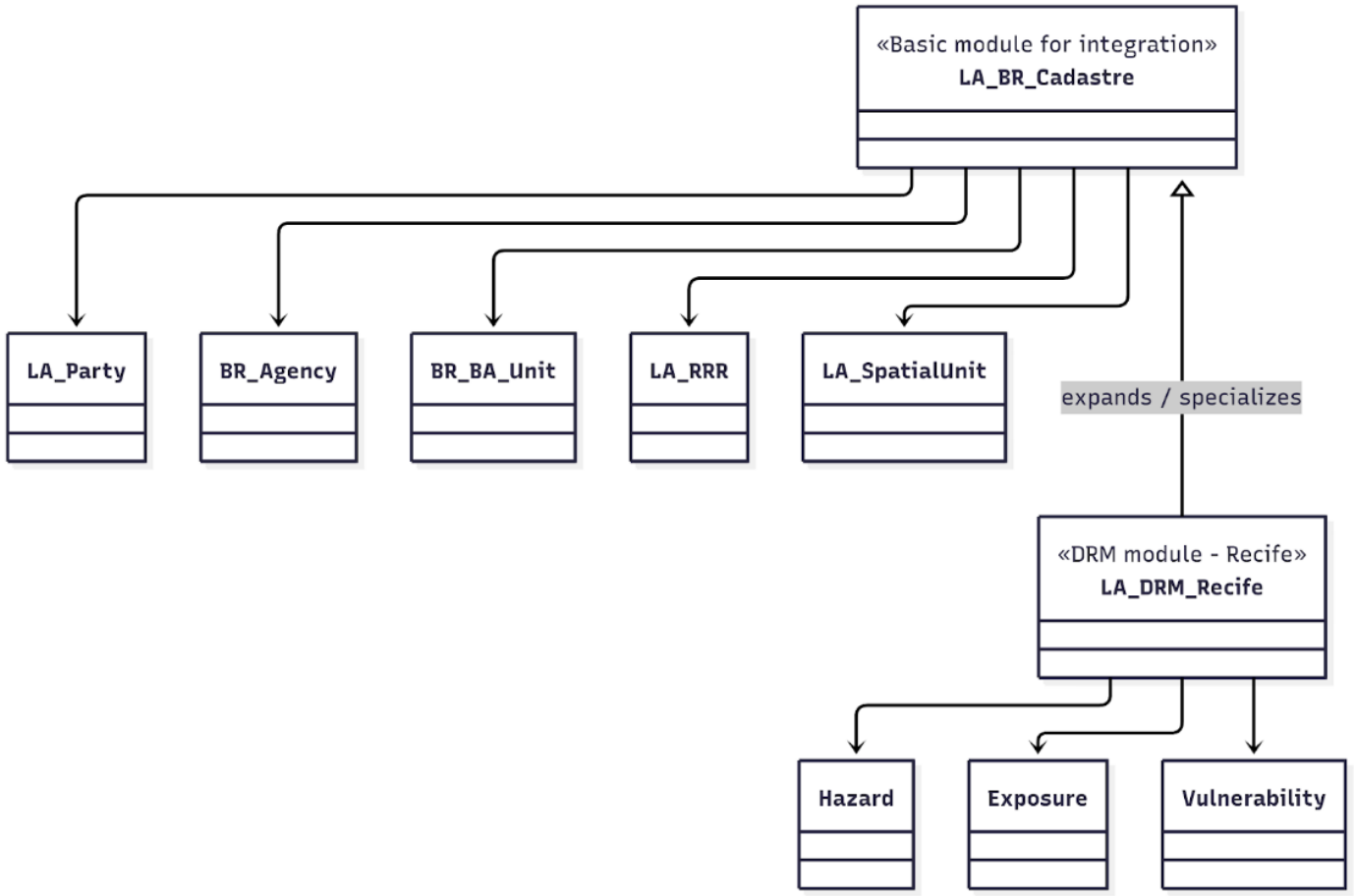
The conceptual DRM model for the municipality of Recife was designed as a specialized module, extending the LADM modelling of an integrated system for Brazilian Cadastre developed by Purificação (2020).

For the modelling, we use the three risk factors (Vulnerability, Exposure, and Hazard) presented in the work of Unger, Zevenbergen, and Bennett's (2017) and Unger (2019).

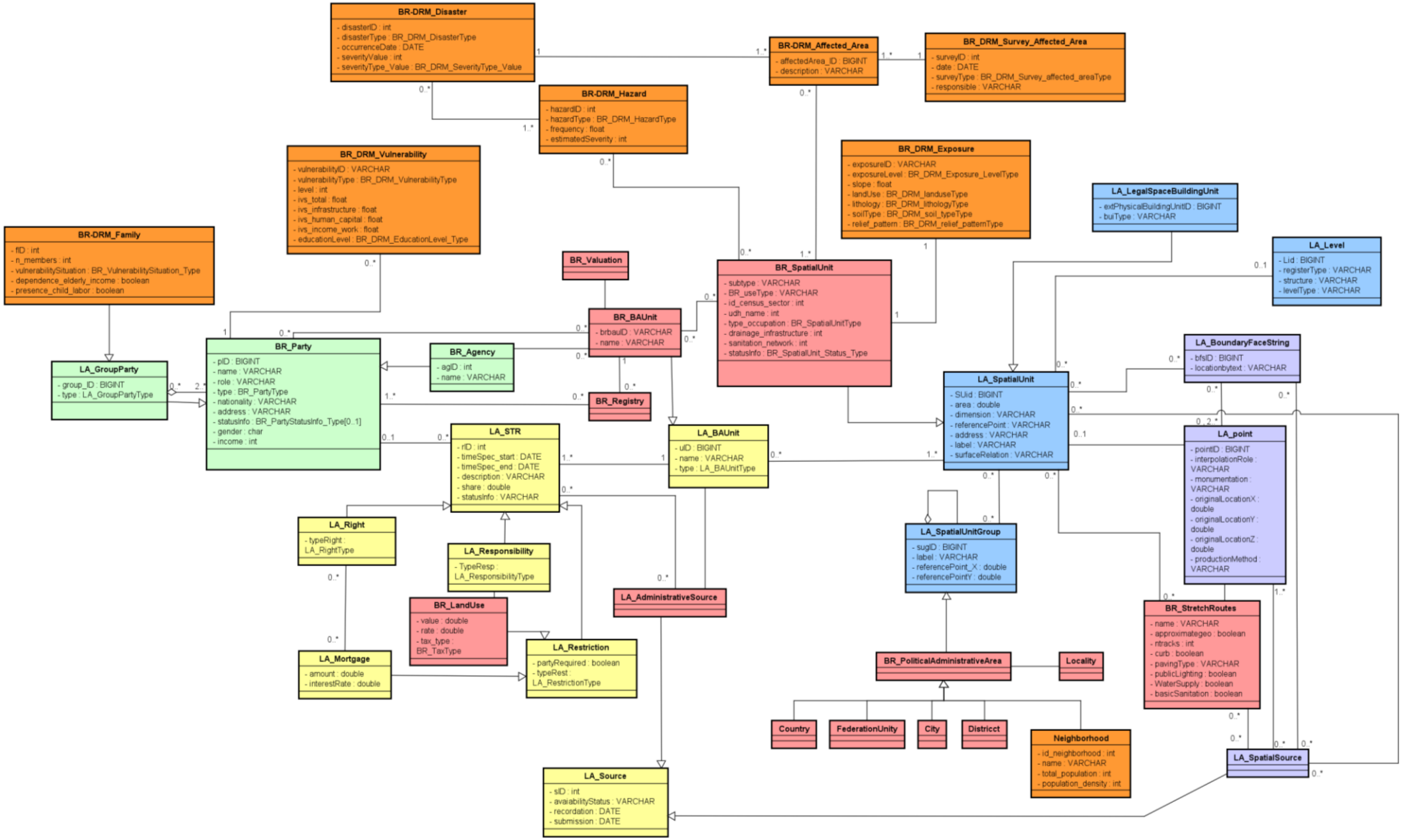
This study utilized the Social Vulnerability Index (IVS) to measure socioeconomic and vulnerability variables, as presented in Xavier's work (2019).

The IVS is composed of three sub-indices: i) Urban Infrastructure; ii) Human Capital; and iii) Income and Labor.

INTEGRATION OF THE LA_BR_CADASTRE MODULE WITH THE DRM MODULE



LA_DRM_RECIFE



CONCLUSIONS

This work serves as a starting point for the discussion of this subject in the country, providing a foundation for further research and applications.

The LA_DRM_Recife module impacts the achievement of the Sustainable Development Goals (SDGs), supporting the development of more resilient and inclusive cities.

The next step is the implementation of the module for applied analysis, assessing its effectiveness in identifying risk-prone areas and in supporting prevention and mitigation actions.

The IVS was used as the primary indicator; however, other variables can be incorporated due to the model's flexibility.

Integration with monitoring systems and with environmental and social databases can substantially enhance the model's applicability.

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