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Title of the work (Working title): Grounding Sustainable Development in Urban Planning: A Framework of Sustainability Indicators for the Metropolitan Region of Santiago, Chile

Overall project: „Risk Habitat Megacity”

Supervisors: Hans Dieter Kasperidus (UFZ), Dirk Heinrichs (UFZ), Jürgen Kopfmüller (FZK), Jonathan Barton (IEU-PUC)

Expected working time frame: finished

Research question: The thesis explores to which extent urban sustainability concepts and a suitable framework of sustainability indicators are considered and applied in urban planning settings in the Metropolitan Region of Santiago and what kind of framework would best fit to the region to improve the current sustainability efforts in urban planning.

Hypotheses: The sustainability concept can best be implemented on the local and/or regional planning level and within a strategic planning setting. It is assumed that at the moment planners and decision makers in the Metropolitan Region of Santiago have no access to a settled reference framework of sustainability indicators that is applied to strategic planning instruments.

Content and Methodology: The thesis begins with a comprehensive review of the origins, emergence, principals, and the application of urban sustainable development. Then it describes and justifies the selection of the Helmholtz integrative concept of sustainable development as a reference framework for the case study area and adapts it to the specific conditions of urban planning in Latin American cities with a special focus on the Metropolitan region. In a next step the thesis explores the critical role of sustainability indicators in urban planning and reviews the progress and transformations in the development of indicator sets used in international urban settings and examples. The case study analysis starts with an exploration of the urban development and planning processes that have taken place in the Metropolitan Region of Santiago for the last two decades and then it examines the state of art of sustainability. A focus was a review of the regional experiences on sustainability commitments within the national context like Agenda 21 activities or the codification of environmental law. Furthermore, it assessed the emergence of strategic sustainability planning in the region by searching for and analysing of sustainability policies and goals in existing regional and communal development plans and compared them with the adapted Helmholtz concept. The assessment was supported through interviews with experts who were involved in the development of the plans. Finally, a proposal is presented for a framework of sustainability indicators adapted to the specific reality of the case study region. The thesis shows that the consideration and application of sustainability concepts and sustainable indicator sets is weak and almost lacking in urban planning and policy making.