

<p>Title of case study*</p>	<p>Vulnerability assessment of the city of Goiania, Goias, Brazil</p>
<p>Date of submission*</p>	<p>31/05/2013</p>
<p>Name of organization(s)*</p>	<p>WayCarbon</p>
<p>NWP Objective* <i>Select the objective(s) of the NWP that the case study responds to.</i></p>	<p>The objective of the Nairobi work programme is to assist all Parties, in particular developing countries, including the least developed countries (LDCs) and small island developing States (SIDS), to:</p> <ul style="list-style-type: none"> x improve their understanding and assessment of impacts, vulnerabilities and adaptation to climate change; and x make informed decisions on practical adaptation actions and measures to respond to climate change on a sound scientific, technical and socio-economic basis, taking into account current and future climate change and variability.
<p>Objective of case study* <i>Describe the specific objective of case study.</i></p>	<p>Define, through a customizable geospatial model, which are the main socioeconomic, infrastructure and environmental risks that augment the vulnerabilities within the city of Goiania, by using different data supports (from medium to detailed resolution). Moving across resolutions allows to capture spatial data variability within the urban tissue and to cluster weaknesses according to social, cultural, environmental, economic and administrative criteria. The detailed level of analysis points out the most exposed areas, localizing the vulnerable population and economic sectors, which should be subject to pro-active measures aimed at improving the urban resilience and at reducing future reparative costs of inaction. This ex-ante assessment, therefore, is intended as evidence-based advisory tool on possible adaptation measures for local policy makers.</p>
<p>Actions* <i>Describe the activities to meet the case study objective, highlighting organizations, communities and/or experts to be engaged.</i></p>	<p>The city of Goiania (GO, Brazil) was selected as Brazilian case-study site for the project “Emerging and Sustainable City” funded by the Inter-American Bank of Development (IADB). The database and modelling framework was fitted on the city attributes and peculiarities, after an extensive discussion with local stakeholders and experts.</p> <p>The assessment was based on a series of composite indicators – easily understandable at all audience levels- which permitted the description and comparison of the main socioeconomic, infrastructure, environmental and institutional vulnerabilities, according to different development paths and climate scenarios. The spatial modelling framework has been fed with a harmonized and normalized spatial database, with includes multi-disciplinary and multi-resolution information correctly georeferenced into a common standard. Qualitative information has been integrated in the form of proxies, where no quantitative data were available. The data collection involved many professionals from Government Institutions, public and private Agencies, IADB and Universities.</p>
<p>Expected results* <i>Describe the envisaged outputs/benefits of the case study/</i></p>	<ul style="list-style-type: none"> - Vulnerability assessment to climate change, according to different development and geo-demographic trends and climate scenarios - Risk mapping to climate extremes (flooding, droughts, landslides, erosion prone areas, fire, and water shortages) - Thematic maps of the above mentioned outputs - Basic statistics of the above mentioned outputs - List of the main weaknesses and risks - Participatory process with local stakeholders to define cost-effective measures to increase the resilience of the city - Modelling framework easily handled by local decision makers in order to support city management

<p>Indicators of achievement* Describe any quantitative and/or qualitative indicator to show that the objective of the case study has been achieved.</p>	<p>In the case study of Goiania the modelling framework has been calibrated by using the historical data up to 2012. The final outputs have been validated through the most recent quantitative information (2013, when available) and by an extensive discussion with local experts and stakeholders. Future scenarios and simulations have been also discussed with local experts and stakeholders during the project implementation and after project closure, in order to enhance the soundness and the acceptance of final outputs. This participatory process and quantitative validation showed a high degree of confidence in the main outcomes.</p>
<p>Region(s) relevant to case study*</p>	<ul style="list-style-type: none"> x All regions <li style="padding-left: 20px;">Africa <li style="padding-left: 20px;">Arab States <li style="padding-left: 20px;">Asia <li style="padding-left: 20px;">Caribbean <li style="padding-left: 20px;">Central America <li style="padding-left: 20px;">Europe <li style="padding-left: 20px;">Least Developed Countries <li style="padding-left: 20px;">North America <li style="padding-left: 20px;">Pacific <li style="padding-left: 20px;">Polar regions <li style="padding-left: 20px;">Small Island Developing States <li style="padding-left: 20px;">South America
<p>Country(ies) relevant to case study</p>	<p>Brazil</p>
<p>Business sector of the organization(s)*</p>	<ul style="list-style-type: none"> Intergovernmental organization National/regional programme/initiative Non-governmental organization x Private sector entity Research institute UN organization/agency
<p>Adaptation sector relevant to case study*</p>	<ul style="list-style-type: none"> Capacity building, education and training Energy Finance and insurance Food, agriculture, forestry and fisheries Human health Oceans and coastal areas x Science, assessment, monitoring and early warning Technology and Information & Communications Technology (ICT) Terrestrial ecosystems Tourism Transport, infrastructure and human settlements Water resources
<p>Adaptation activity delivered by case study*</p>	<ul style="list-style-type: none"> x Capacity building x Climate-resilient development planning x Communications and awareness-raising <li style="padding-left: 20px;">Disaster risk reduction x Early warning systems x Education <li style="padding-left: 20px;">Financial support <li style="padding-left: 20px;">Humanitarian assistance x Knowledge management x Monitoring and evaluation <li style="padding-left: 20px;">Pilot adaptation programmes/projects x Risk/vulnerability mapping <li style="padding-left: 20px;">Training

* Mandatory fields

¹ More information on the Nairobi work programme work areas is available at: <<http://unfccc.int/nwp>>

Disclaimer: These business cases have been cited to raise awareness about the engagement of the private sector in climate change adaptation. The information in the business cases has been provided either directly by the organization or obtained from a public source. The UNFCCC Secretariat has not verified the information and takes no responsibility for it. Users are therefore advised to verify the information before they take any action relying on the information provided in the business cases.

<p>Work areas of the NWP*¹ <i>Select among the nine work areas of the NWP that apply to the case study.</i></p>	<ul style="list-style-type: none"> x Adaptation planning and practices x Climate modelling, scenarios and downscaling x Climate-related risks and extreme events x Data and observations x Economic diversification x Methods and tools x Research x Socio-economic information Technologies for adaptation
<p>Target group*</p>	<ul style="list-style-type: none"> x Academics Children Communities x Policy makers x Practitioners x Private sector Women
<p>Link <i>Further information on relevant websites.</i></p>	<p>www.waycarbon.com</p>
<p>Description <i>Provide a title and brief description of the picture and of the case study. This information will appear with your image on the homepage of the NWP.</i></p>	<p>Integrated assessment of vulnerability to climate change and risk mapping for the city of Goiania.</p>

* Mandatory fields

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