Education, Design and Practice – Understanding skills in a Complex World

• Paper / Proposal Title:

A CONVERSATION OF SCIENCES: DESIGN PROPOSALS FOR CLIMATE CHANGE ADAPTATION AS INPUT AND VISION FOR INNOVATIVE POLICY IMPLEMENTATION.

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• Abstract (300 words):

The Gulf of Guayaquil is located in Guayaquil, the biggest city of Ecuador and known as one of the cities worldwide that will experience the highest average annual losses due to climate change (Hallegatte et al., 2013). This Gulf is a fragile estuarine ecosystem that is the home of local species and ancestral communities. There are factors that have interacted to make it vulnerable to climate change effects, being the
main one the concession of land for mono-productive shrimp farming, given from the government to private businesses. Facts associated to the increasing number of shrimp farms in the Gulf, since 1969, are the felling of mangrove and the changes in the landscape of the zone. There are 2.28 hectares devoted to shrimp production for every hectare of mangrove (2018) and this deforestation has two main effects: (i) increased coastal exposure to sea level rise, and (ii) endangered livelihood of the communities. The understanding of these situations was a product of a multidisciplinary approach that combined studio work, social sciences and public policy. The design project was called “reverse colonization”, it was developed in a landscape architecture class with the 2030 innovative vision of converting 50% of shrimp farms hectares for diverse purposes, such as: topographic manipulation, chinampas, water treatment and integrated and diversified aquaculture. From the public policy approach was analyzed that in order to reach this vision is necessary to amend national regulations so the proposal is to change the typography of concessions and start renewing them with the condition for businesses to devote a percentage of the land for diversified uses, until the vision is achieved. This, accompanied by the design of fiscal mechanisms based on spatial analysis using GIS, as tax reductions linked to incentives for reforestation will form an integral public policy towards conservation and adaptation.

**Author(s) Biography (200 words each):**

Wendy Chávez is an economist who has a Master’s degree in Public Administration and Fiscal Policy. She has 10 years of experience in the public sector of Ecuador, in national and international organizations that design, give advice and/or implement public policy, such as local municipalities, central government and the Andean Parliament. Searching for mechanisms to achieve an effective implementation of policies, she got involved in projects with students and colleagues of Sociology and Architecture, being this the fuel to start her Master of Human Settlements. Thanks to the scholarship and funding received by ICP and VLIR-UOS in KU Leuven (Belgium), Wendy and a group of students of the program did intensive fieldwork in the Gulf of Guayaquil to elaborate proposals for climate change adaptation. The results were three different landscape architecture projects for the Gulf and a deep research about the history, institutional-social dynamics, and climate change effects in the area. Innovative studio projects fed the public policy approach and as a result the holistic proposal recommends real actions for the short-medium and long terms, considering changes in national regulations as well as changes in the landscape, towards the achievement of a vision that promotes sustainability for the Gulf.