

**DOCTORAL THESIS INFORMATION WITH NEW SCIENTIFIC
CONTRIBUTION, THEORETICAL STUDY**

1. Dissertation title: *“Research on assessing the role of factors affecting the capacity to climate change adaptation of Da Nang city by the Structural Equation Modeling (SEM) method”*

Code: 9440221

Major: Climate Change

2. PhD Candidate:

Advisors: Prof. Dr. Mai Trong Nhuan; Prof. Dr. Tran Hong Thai

Training Institution: Viet Nam Institute of Meteorology, Hydrology, and Climate Change.

3. Introduction to the Dissertation:

According to the Report of the Global Climate Risk Index 2020 of the agency “Germanwatch”, Vietnam ranks 6th out of the 10 countries most affected by climate risks in the period 1999 to 2018. Climate change increases the level of resource depletion and environmental degradation; increases vulnerability and poses the risk of slowing down or reversing socio-economic development.

The coastal area of Vietnam is an area suffered to many risks from climate change, in which the coastal area is the most vulnerable area. The majority of the population in the region has the main livelihoods of agriculture, fishing, aquaculture, tourism, etc. These livelihoods depend on natural resources and weather conditions, climate.

Therefore, improving the capacity to adapt to climate change for the most vulnerable communities, regions and countries is a necessary condition to reduce the vulnerability and a foundation of sustainable development. It helps develop a

the vulnerability and a foundation of sustainable development. It helps develop a sustainable society to ensure the livelihoods of communities with the capacity of adapting to climate change. Therefore, the relationship between sustainable livelihoods and abilities of climate change adaptation of coastal urban areas is close. Determining the role of livelihood resources on abilities of climate change adaptation of coastal urban areas needs to be built based on the perspective of climate change adaptation associated with sustainable development. It is necessary to develop abilities of climate change adaptation based on livelihood resources since livelihood resources are the "internal resources" of people, which is the central factor and the core basis for livelihood activities to adapt to climate change

Therefore, the topic "Study to evaluate the role of factors affecting the adaptability of Da Nang city to climate change by SEM structural modeling method" was selected to research in the thesis.

The thesis has achieved the following results:

For the aim of "Research and propose a set of indicators affecting the adaptability of Da Nang city to climate change based on sustainable livelihoods", the results have shown the scientific and practical basis to propose a set of indicators affecting the adaptability of Da Nang city to climate change;

For the goal of "Research and selection of SEM structural models to evaluate the role of factors affecting the adaptability of Da Nang city to climate change", the results have shown the scientific and practical basis for selecting SEM modeling methods for calculations.

For the goal of "Assessment of the role of factors affecting the adaptability of Da Nang city, the average - well-off households and the poor - near-poor households to climate change" the results show the basic factors Infrastructure and nature have a great influence on the adaptability of Da Nang city and the average - well-off households. For poor - near-poor households, financial factors have a big influence.

4. New contributions of Dissertation:

- Propose a set of indicators on the capacity of climate change adaptation of Da Nang city based on integrating sustainable livelihoods with climate change and under the natural - economic - social - livelihood characteristics of the city.
- Selecting and applying SEM structural modeling method in the field of climate change to assess the role of factors affecting the adaptability of Da Nang city to climate change.
- Assess the role of determinants affecting the capacity of climate change adaptation of Da Nang city, the high-middle income households and the poor and near-poor income households, and climate change.

Representative of Advisors

PhD Candidate



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