GEMMES Viet Nam project

SEMINAR[1]/WEBINAR[2] SERIES 2020/2021

[1] Hanoï Club, 76 Phố Yên Phụ, Yên Phụ, Tây Hồ, Hà Nội 100000, Viêt Nam
[2] Zoom webinar registration link

The GEMMES Vietnam project is a three years research project in response to the strong political demand in Vietnam for better assessing the socio-economic impacts of future climate changes and developing a prospective view of possible adaptation actions. In application of the Memorandum of Understanding signed at the Elysée Palace in March 2018 between the MoNRE (Ministry of Environment and Natural Resources of Viet Nam) and AFD, the GEMMES Viet Nam project aims to propose an integrated study of the different aspects of the socio-economic impacts of climate change and possible adaptation strategies.

It is developed together between Agence Française de Développement (AFD) and the Department of Climate Change of the Ministry of Natural Resources and Environment (MoNRE/DCC), with the support of the Development Research Institute (IRD) and Institute of Meteorology, Hydrology, and Climate (IMHEN). It is funded by the Facility 2050. It was officially started in the end of 2019 after a Memorandum of Uncerstanding was signed between MoNRE/DCC and AFD.

After the extraordinary pandemic year of 2020, the coming year 2021 is particularly important for both Vietnam and the international community in relation with climate strategies. In particular, the elaboration of Vietnam's National Climate Change Strategy to is a key element of the agenda this year. 5 years after the Paris Agreement, it is the time to take stock of the experience and build up momentum towards an increase in climate policy ambitions. This diplomatic momentum has just started globally, and GEMMES Vietnam will contribute on its side through the production of a intermediary report ahead of COP26 in November 2021.

This seminar/webinar series of five consecutive sessions aims at taking stock of one year of research on climate simulatons, social and sectoral impacts, adaptation strategies, and financial macroeconomic assessment of climate change impacts. It will give perspectives on the research dynamics of the project for the crucial year ahead, especially in the perspective of contributing to the Vietnamese climate change strategy. It will also be an opportunity to build a Vietnamese-French community on climate issues, including a variety of stakeholders with the spirit that climate and economic evidence should inspire the policy dialogue on climate change strategies.

Session 1: December 3rd, 2020

Future climate scenarios over Vietnam: preliminary results from GEMMES

Chair Prof. Ngo Duc Thanh (USTH)

High-resolution climate scenarios accounting for the different sources of uncertainties over future climate policies is a necessary first step to assess the socio-economic impacts of climate change by 2050. A new methodology to downscale the climate scenarios from the global climate models of the CMIP5 and CMIP6 modeling programs at a finer granularity over Vietnam is proposed. Specific scenarios of sea-level rise, subsidence and salinity intrusion are then developed for the Mekong region. The process of updating climate change and sea-level rise scenarios for Vietnam is then explained by the Institute of Meteorology, Hydrology and Climate Change.

1 Building high-resolution future climate scenarios in Vietnam using the Bias Corrected Spatial Disaggregation downscaling approach

Authors: Quan Tran-Anh, Thanh Ngo-Duc, Espagne Etienne

2 Scenarios of sea-level rise, subsidence and salinity intrusion in the Mekong

Authors: Eslami Arab Sepehr

3 Updating Climate change and Sea-level rise Projections for Vietnam

Authors: Le Quoc Huy , Tr uong Ba Kien

Session 2: December 10th, 2020

Sectoral impacts (to 2050) (1)

Chair Prof. Manh-Hung Nguyen (INRAE)

Sectoral impacts of future climate changes can partially be assessed by looking at how those economic sectors reacted to past climate variations. Combining different econometric techniques, it is thus possible to understand the dynamic reaction of those sectors and project them into the future using the high-resolution climate scenarios discussed in session 1. During this session, we will be looking at the impacts of climate variability on rice technical efficiency and on fisheries and aquaculture. A final presentation will show how the economic impacts of typhoons can be assessed by using night-time lights satellite data.

1 Impacts of Extreme Climate Events on Technical Efficiency in Vietnamese Agriculture

Authors : Diallo Yoro, Marchand Sébastien, Espagne Etienne

2 The spatial impact of natural disasters on fishery in Vietnam

Authors: Chon Le Van, Nguyen Manh-Hung, Nguyen Thi Lan Anh

3 Macroeconomic impacts of typhoons using night-time lights data

Authors: Ha Boi Yen, Houngbedgi Kenneth, Thanh Ngo-Duc, Espagne Etienne

Session 3: December 17th, 2020

Macroeconomics of climate change and adaptation (to 2050)

Chair Dr. Etienne Espagne (AFD)

Sectoral impacts of climate changes only give a partial view of potential impacts if cross-sectoral effects and retroactions on the aggregate macroeconomic variables, mainly investment, consumption, exports, imports as well as prices such as the exchange rate, are not accounted for. This is exactly what this third session will be developing, proposing the first stock-flow coherent empirical macroeconomic model of the Vietnamese economy with a preliminary representation of damages and adaptation dynamics, and a macroeconomic assessment of how global climate change may transform trade relations of Vietnam and redefine its long run equilibrium growth rate (multi-country Thirlwall law). Finally, it is essential to be able to communicate widely around future climate scenarios and impacts. With this in mind, we will present the web platform of the GEMMES Vietnam project especially using dynamic mapping of future climate impacts for Vietnam.

1 Vietnam's trade led growth, balance of payments and macroeconomic resilience

Authors: Mania Elodie, Rieber Arsène, Tran Thi Anh-Dao

2 A Stock-Flow Coherent macro model of Vietnam with climate impacts and adaptation

Authors: Nguyen Thu Ha, Reyes Luis, Espagne Etienne, Mazier Jacques, Brillet Jean-Louis

3 The GEMMES Vietnam project's website: a platform on climate impacts and adaptation

Presentation by Thanh Ngo-Duc (USTH team) and Etienne Espagne (AFD)

Session 4: January 7th, 2021

Adaptation strategies

Chair Dr. Emmanuel Pannier (IRD)

Adaptation to climate changes is the core topic of this fourth session. We will first present a landscape of adaptation financing actors in Vietnam together with three identified bottlenecks for further climate adaptation action. In addition to this institutional analysis, two case-studies of adaptation behaviors from two very different fields in Vietnam will be analyzed using tools from development anthropology and agent-based modeling.

1 The three dialectics of adaptation finance in Vietnam

Authors: Pannier Emmanuel, Vu Can Toan, Espagne Etienne, Pulliat Gwenn, Nguyen Thu Ha

2 An Agent-Based Modeling approach for understanding decision of farmers in rice-shrimp farming systems under the impact of climate change - Application to My Xuyen district, Soc Trang

Authors: Truong Chi Quang, Huynh Quang Nghi, Alexis Drogoul, Benoit Gaudou

3 Adaptation to climate-related hazard in Vietnam's northern upland: a case study of responses to an historical flash-flood in Lao Cai province

Authors: Emmanuel Pannier, Phan Phuong Anh, Phan Thi Kim Tâm, Nguyen Nhat Anh

Session 5: January 14th, 2021

Social impacts

Chair Pr. Viet Cuong Nguyen (HNU)

In this last session, we develop more the investigation into sectoral impacts of future climate changes by analyzing how labor productivity might change with climate, investigating different channels through which health might be affected, and analyzing how climate change might affect revenue inequalities.

1 The labor productivity impacts of climate change: Evidence from Vietnamese firm level data

Authors: Nguyen Manh-Hung, Nguyen Truong Toan

2 Climate shocks and health: evidence from Vietnam

Authors: Nguyen Manh-Hung, Nguyen Truong Toan, Nguyen Viet Cuong

3 Non-linear Impacts of Climate Change on Income and Inequality in Vietnam

Authors: De Laubier Longuet Marx Nicolas, Espagne Etienne, Thanh Ngo-Duc, Duy Anh Phan