



**THE SOCIALIST REPUBLIC OF VIETNAM**  
**Independence - Freedom - Happiness**

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*Thesis title:* Valuing economic impact of climate change on catch fisheries and coping solutions for Vietnam  
*Major:* Development Economics    Major code: 9 31 01 05  
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**SUMMARY ON NEW CONCLUSIONS OF THE DISSERTATION**

1. World fish stock has been significantly decreased due to different types of impacts such as overfishing, pollution, loss of habitat, degradation of biodiversity, epidemics, etc. Climate change aggravates the reduction directly and indirectly. Impacts of climate change on aquatic species can be positive or negative in different areas of the world. Fish stock tends to decrease in tropical waters. Countries need to have solutions to ensure that fisheries sector is able to cope with and adapt to climate change, of which the most importance is to limit overexploitation.

2. Vietnam's catch fisheries is seriously affected by climate change. In the long term, catch yield will decrease by 22.6% when sea surface temperature increases by 1 °C and it will decrease by 0.6% when rainfall increases by 1%. Change in catch yield and productivity due to increase in number of storms is not statistically significant. Climate change increases the risk of depleting aquatic resources if overfishing keeps continuing. If there is no change in fish demand, both consumers and producers will suffer losses due to climate change, in which the loss of consumer surplus accounts for 95% of total social losses. By 2025, social losses due to impacts of climate change are VND 30 and 40 trillion per year respectively in the scenarios RCP4.5 and RCP8.5. Losses up to 2055 are VND 33 and 47 trillion respectively, calculated at the 2014 fixed price after discount. If the demand for seafood increases, it will cause even more damage to consumers while producers benefit from higher prices than loss due to reduced output. The total social surplus will generally be reduced if there is a high temperature increase.

3. In the orientation to 2055, Vietnam needs to implement fisheries management towards ecological sustainability, which limits catch yield through different groups of solutions and management tools, such as: Input control and output control through a transferable and redeemable quota system; Research on impacts of climate change to regularly update technical control and quota regulations; Applying information technology to strengthen control measures; Stop subsidies, tax and fee exemption in catch fisheries; Strengthening capacity to prevent IUU fishing activities; Integrated fishing management and simultaneous use many measures and tools, including integrating climate change into socio-economic development plans of communities, localities and countries; Support the development of marine farming and improvement of quality of aquatic product processing; Support livelihood conversion; Development of mangroves, coral reefs and seagrass; Enhancing international cooperation in research, financial support and catch; Enhancing people's knowledge on climate change and its impacts on catch fisheries; Applying community-based co-management and decentralisation; Allowing transferable long-term water surface use rights; etc.

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**Confirmation of supervisors**

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