Introduction

- By 2050, the loss of climatic suitability for VN’s coffee cultivation could be up to 50% (International Center for Tropical Agricultural-CIAT 2012).

- Meanwhile, more than 0.5 millions Vietnamese small-scale coffee farmers are struggling against the impacts of climate change to maintain their livelihoods.

- Though adaptation strategies considered for sustainable development, they have yet to draw farmers’ attention.

  ➔ The research aims to explore drivers and barriers to Vietnamese coffee farmers’ attention to adaptation strategies.

Materials and methods

Robusta

95% of VN coffee production

Arabica

5% of VN coffee production

- More than 90% of Vietnamese coffee is grown in the Central Highland (Figure 2).

- The two areas namely Dak Lak and Lam Dong provinces will be studied because of their highest vulnerability towards climate change.

- High temperature, severe droughts and low-level water are the climatic hazards small farmers have been suffered the most from climate change.

- Especially, during dry season, water insecurity has caused serious damages galore on coffee growth.

  ➔ Data collection period will be from March to Jun 2021.

- Based on the Theory of Planned Behavior (TPB), Structural Equation Model (SEM) consists of 4 factors (F₁, F₂, F₃) and 3 groups of items (Xᵢ, Xⱼ, Xₙ).

  ![Figure 1: Chart courtesy of CIAT 2012](image)

  ![Figure 2: Major coffee planting provinces in Vietnam](image)

  ![Figure 3: Growth stages of coffee plant](image)

  ![Figure 4: SEM based on the TPB](image)

- Xᵢ, Xⱼ, Xₙ (observed variables) are items taken from questionnaire survey of min 300 farmers, 30-50 of which will be selected for interviews.

- F₁-F₃ are elements of TPB.

  ◗ In 1st model: Measurement model

  \[ Xᵢ = αF₁ + εᵢ \]

  Coefficient \(α\) will specify how each element of TPB (\(Fᵢ, Fⱼ, Fₙ\)) is measured by its group of items (\(Xᵢ, Xⱼ, Xₙ\)) respectively.

  ◗ In 2nd model: Structural model

  \[ F₄ = β₃F₁ + β₂F₂ + β₁F₃ + ε₄ \]

  Coefficient \(β\) represents the relationship between each influencing factors (\(Fᵢ, Fⱼ, Fₙ\)) with factor \(F₄\).

  ➔ Shows the direction of impact (positive/negative) as well how significantly these influences are ➔ determine which one has the highest impact.

Expected outcomes

- The drivers and barriers of coffee’s intention to adopt the climate change adaptation will be identified.

- Could answer whether adaptation strategies are efficient way to cope with climate change or not.

Conclusions

- The research attempts to extend the knowledge in the field of adaptation attention of Vietnamese coffee farmers by:

  ◦ The drivers of adaptation should be promoted and the barriers should be moderated.

  ◦ Adaptation found to be efficient should be promoted while the inefficient ones should be enhanced.

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