



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).

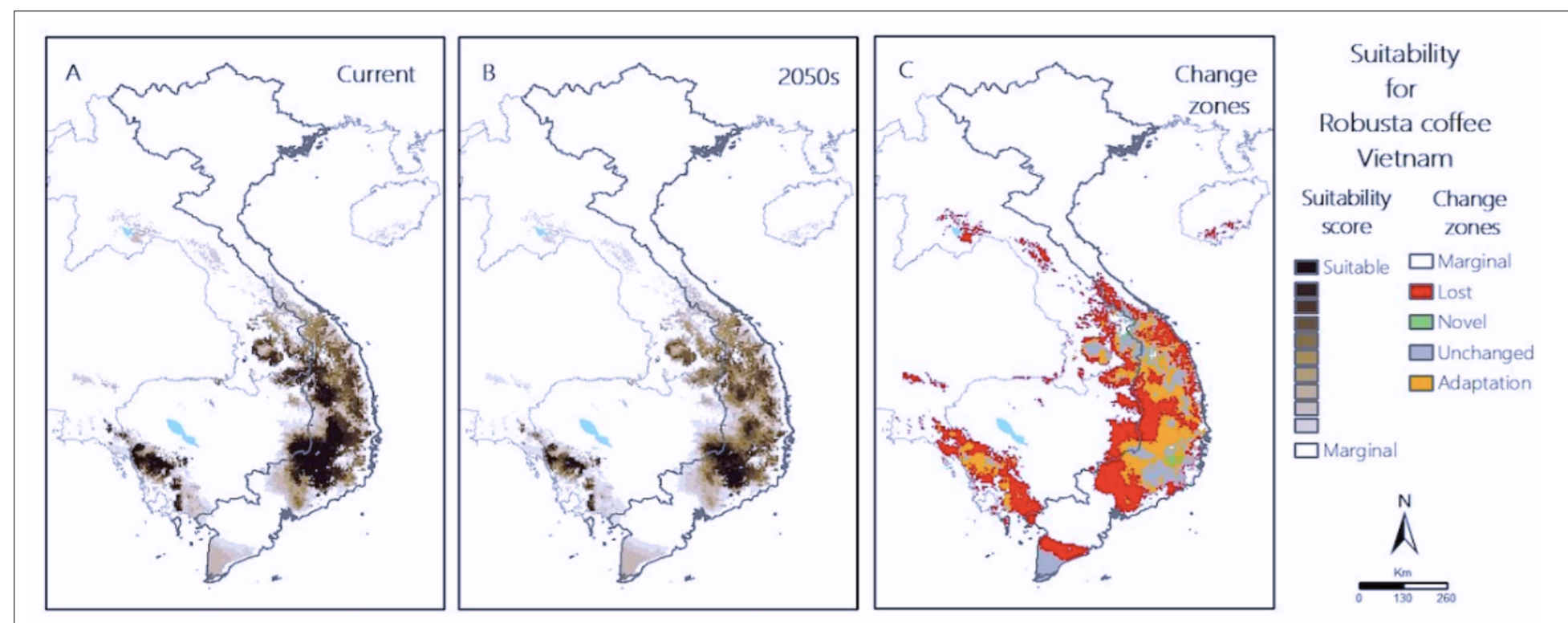


Figure 1: Chart courtesy of CIAT 2012

- 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

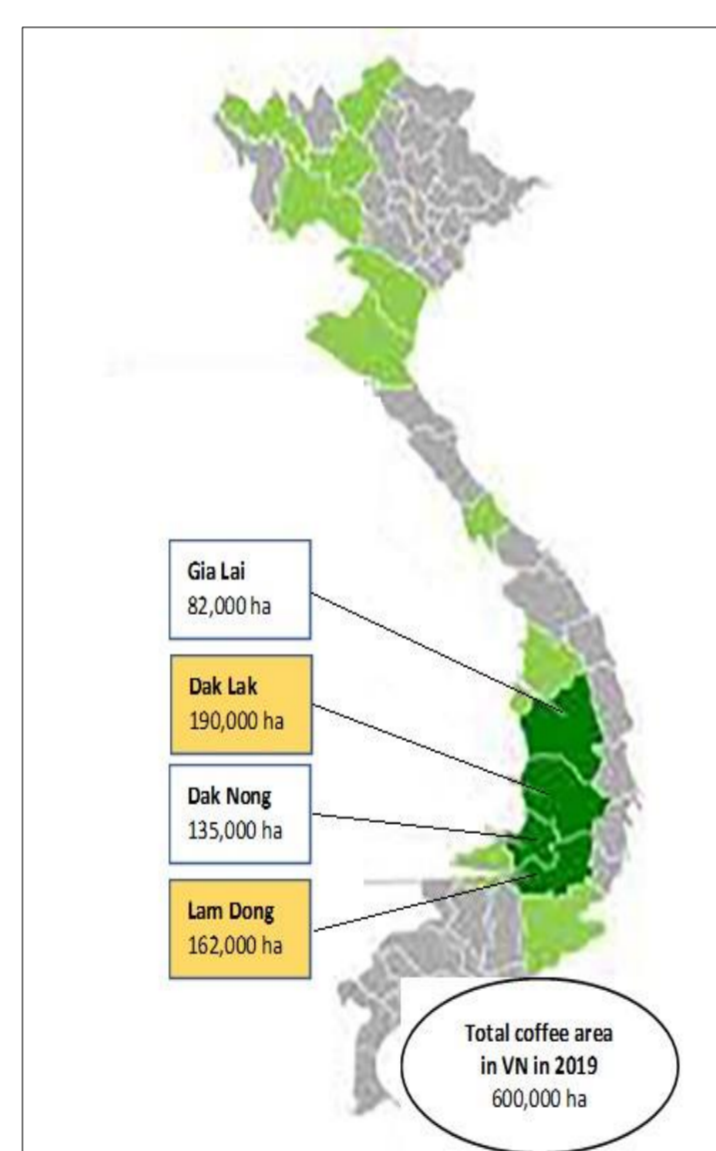
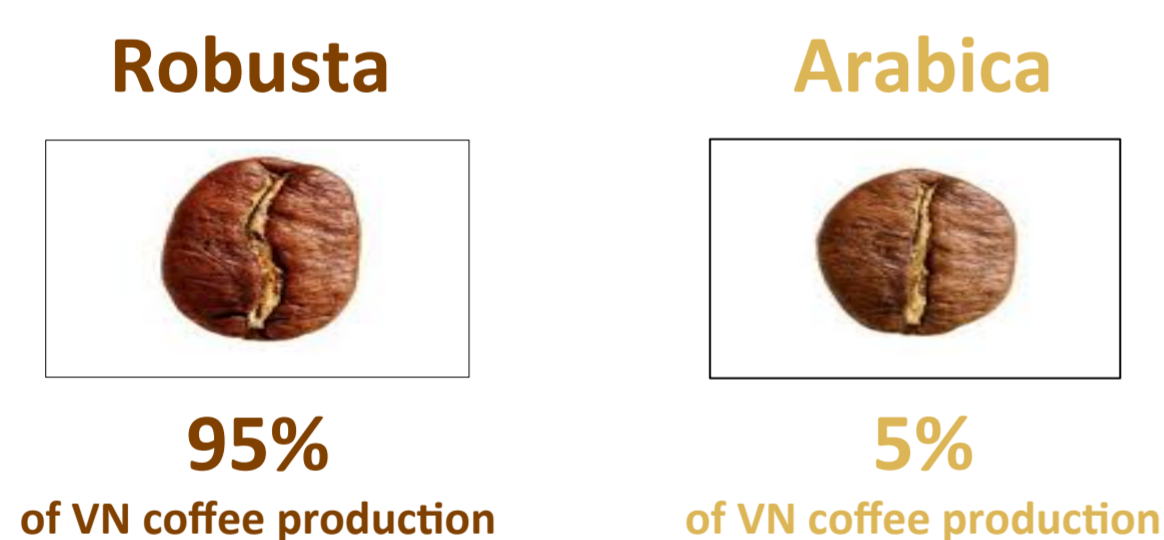


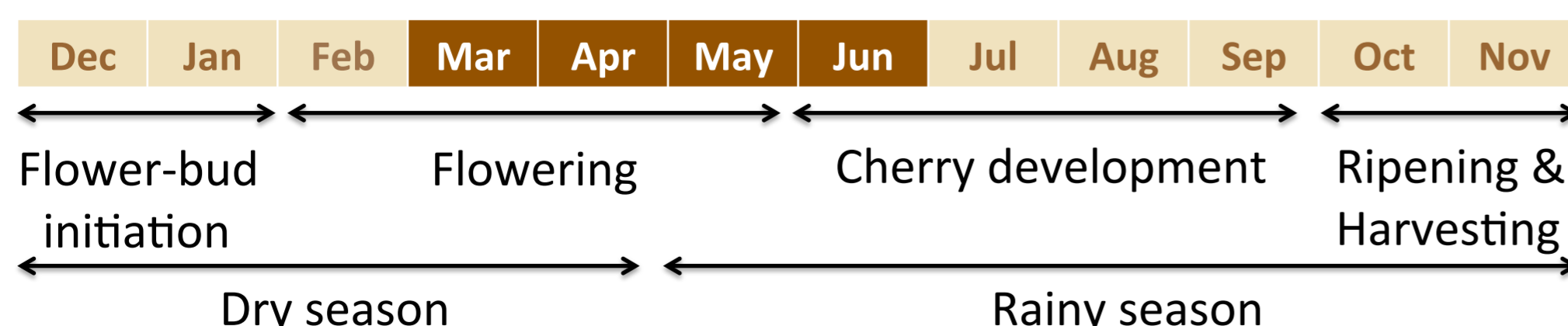
Figure 2: Major coffee planting provinces in Vietnam

- 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.

Figure 3: Growth stages of coffee plant



- Based on the Theory of Planned Behavior (TPB), Structural Equation Model (SEM) consists of 4 factors (F_1 - F_4) and 3 groups of items (X_i, X_j, X_h).

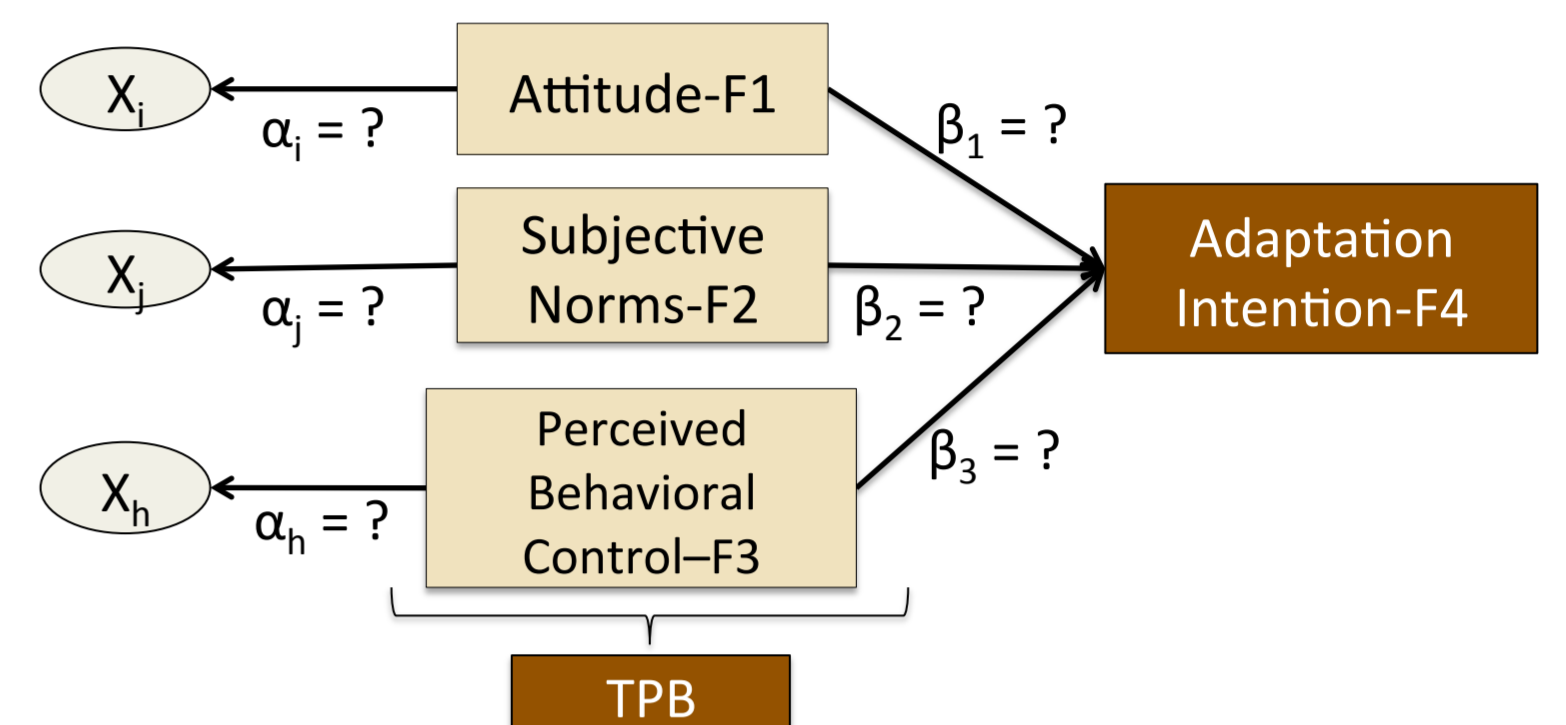


Figure 4: SEM based on the TPB

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

- F_1 - F_3 are elements of TPB.

❖ In 1st model: Measurement model

$$\text{Ex: } X_i = \alpha_i F_1 + e_i$$

Coefficient α will specify how each element of TPB (F_1, F_2, F_3) is measured by its group of items (X_i, X_j, X_h) respectively.

- F_4 is farmers' adaptation intention towards climate change.

❖ In 2nd model: Structural model

$$F_4 = \beta_1 F_1 + \beta_2 F_2 + \beta_3 F_3 + \epsilon_4$$

Coefficient β represents the relationship between each influencing factors (F_1, F_2, F_3) with factor F_4 .

→ 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.

Acknowledgement:

The research is supported by Internal Grant Agency of Faculty of Tropical AgriSciences: grant number 20205010

Contacts:

Nguyen Phuong Anh
PhD Candidate
Sustainable Rural Development
nguyenp@ftz.czu.cz

Assoc. Prof. Miroslava Bavorova
Supervisor (Head of department)
Department of Economics and Development
bavorova@ftz.czu.cz