



## FELLOWSHIP SUMMARY REPORTS

**Name:** Azadi      **First Name:** Hossein      **Citizenship:** Belgian

**Institute where you carried out your fellowship:** Ghent University, Department of Geography, Ghent, Belgium

**Duration:** 6 months      **From:** 30 June 2021      **To:** 31 December 2021

**Subject:** Rethinking Resilient Agriculture: From Climate-Smart Agriculture to Climate-Functional Farming

### 1. What were the objectives of the research project? Why is the research project important?

Climate change has a big influence on livelihoods, especially the livelihoods that are mostly natural resource oriented. It is believed that Climate Smart Agriculture (CSA) has the potential to be resilient to climate change. However, this project attempted to reveal that CSA objectives are rarely met and the whole farming system still remains highly vulnerable. Thus, this project introduced Climate-Functional Farming (CFF), which not only addresses food security and climate change, but also explicitly focuses on farm, farmers and their livelihoods. Therefore, the main objective of this project was to understand whether and why rethinking resilient agriculture from CSA to CFF is needed and “how” CFF should be practiced.

### 2. Were the objectives of the fellowship achieved?

This project has successfully addressed the objective through understanding how farmers predict and react to a climate/farming critical incident; measuring the consequences; identifying farmers’ coping strategies; and assessing farmers’ livelihood assets.

The so-far (but not only) outcome of the fellowship has been already published in a high quality (Q1) journal as follows:

Azadi, H., Movahhed Moghaddam, S., Burkart, S., Mahmoudi, H., Van Passel, S., Kurban, A., Lopez-Carr, D. (2021). Rethinking resilient agriculture: From climate smart agriculture to vulnerable-smart agriculture. *Journal of Cleaner Production*, 319, 128602 (IF: 11.072)

### 3. What were the major achievements of the fellowship? (up to three)

1. Publishing a paper in quality (Q1) journal (*Journal of Cleaner Production*).
2. Establishing long term collaboration with the host (UCSB)
3. Establishing long term collaboration with my supervisor in terms of:
  - a) Inviting him to Belgium as a guest professor
  - b) Publishing more joint articles
  - c) Joint application for research project funds

### 4. Will there be any follow-up work?

Two ISI-rated journal articles to be submitted to “[Agriculture, Ecosystems & Environment](#)” and “[Climatic Change](#)”, and also presenting one paper at a relevant conference (target group: specialists). Also, please see the running initiations mentioned in the previous item (item 3).

### 5. How might the results of your research project be important for helping develop regional, national or international agro-food, fisheries or forestry policies and, or practices, or be beneficial for society?

The main policy implication of this study was to provide insights into sustainable agricultural production and contribute to the developed and developing economy by providing strategic planning assistance that integrates the multiple objectives of climate change, agricultural development and food security. The results of this project will help maintain and restore ecosystem services in the context of current and future climate change. This project will also take into account the sustainable livelihood assets of farmers. This can create synergies between human, physical, social, financial, and natural value for farmers and the preservation of nature. A new agricultural system of sustainable intensification of integrated food and non-food systems will therefore be developed if we have better knowledge and understanding about the following issues: how farmers predict climate change-related incidents, their assessment of the impacts and risks of climate change, and the development of appropriate coping strategies. Bottom





line, the proposed objectives of this proposal will develop an integrated and system-based approach to monitoring the CFF and addressing food security.

#### **6. How was this research relevant to:**

The proposed objectives of my study produced a practical scientific contribution to the CRP as follows:

My study was an interdisciplinary research that deals with multiple challenges faced by agriculturalists, environmentalists, sociologists and anthropologists now and in the future. Using interrelated approaches (literature review, workshop, expert panel discussions, field survey analysis, RS/GIS and scenario writing) and assessing/managing the impacts of the incidents and climate risks on farmers helped with increasing the resilience capacity of farming systems. In addition, my project concluded the implementation of several methodological approaches, which combine a range of quantitative and qualitative (mixed-method) techniques from several disciplines. This study was relevant to this core theme as it tried to meet the need for food safety, resilient systems and sustainable intensification of agricultural production for reducing social and economic impact of climate change. The proposal, with an in-depth understanding and assessing the vulnerability of different farmers in Ethiopia and Guatemala, had the potential to significantly contribute to resilient agriculture by developing sensitive and reliable indicators to assess the vulnerability of farmers to climate change.

#### **7. Satisfaction**

Being awarded fellowship in the CRP program enhances my achievements in agriculture science and the impact I have made in my profession. Being highly satisfied with CRP fellowship, I have the plan to apply for the fellowship one more time for sure.

#### **8. Advertising the Co-operative Research Programme**

Through monitoring the OECD website I have learn about the Co-operative Research Programme.

