

COMPLETION REPORT

National Taiwan University
Hung-Hao Chang

Subject of Research Project: Evaluate The Economic Impact of Natural Disasters on Agricultural Farms - Empirical Analysis of The 2011 Tohoku and 2018 Hokkaido Earthquake in Japan and Cross County Comparison to Taiwan

Assessing the economic impacts of natural disasters is a recent systematic field of academic research. Previous literature paid little attention on the agricultural sector, particularly on agribusiness farms. This study fulfills this research gap by evaluating the economic impact of the natural disaster shocks on agricultural farms in Japan. We focus on the 2011 Great East Japan Earthquake and 2018 Hokkaido Eastern Iburi Earthquake and Morake Typhoon in Taiwan. Since the two earthquakes occurred in many areas including agricultural zones, we conduct economical comparison on agribusiness farms. To the best of our knowledge, this is the first study to compare the impact of these two severe events on agricultural farms. The specific objectives of our proposal are as follows. We compare between Japan and Taiwan on different perspectives, and host several expert meetings to share our findings in Japan and cross county comparison between Japan and Taiwan. By conducting the cross-country comparison, we shed some lights in the disaster relief programs in the East Asia region.

We find some similarities between earthquake in Japan and Typhoons in Taiwan. Those are both disasters caused a gigantic economic loss and landscape changing, even calming lives of residents and wild animals. Both of earthquakes in Japan and Typhoons in Taiwan hit the coastal area fiercely. Tsunami triggered by earthquake would drain the area near the sea. Coincidentally, typhoons usually resulted in accompanied effect, which may cause storm surge, the flood consequently happened in the coastal area. However, some differences were pointed out and widely discussed in past literatures and media report. For example, earthquakes are hardly to forecast, resulting in little time to react. Therefore, the loss from earthquakes is usually larger than typhoons. Not like earthquakes, most of typhoons followed a steady moving path, accessing Taiwan with a relative constant speed. Residents could retreat in advanced. As to time and space scale, the recession caused by earthquakes are longer and wilder. The disastrous impact usually spread at a national level. Additionally, the industries affected by earthquakes are more diverse, for example, agriculture, electricity sector, residential facilities, food services and commerce. Contrarily, typhoon seems to be a temporary shock to Taiwan. Most of report focus on agriculture loss and damaged infrastructure. Furthermore, the recession time that typhoons last was also shorter than earthquake.

To sum up, earthquakes and typhoons are two kinds of sever nature disasters. They both result in irreversible destruction to the human being and wild animal. Most of us focus on economic loss and productivity recession. However, the disability of supply chain, and the recovery of the nature resource should be considered.

Publication of the Results of Research Project:

<p>Verbal Presentation (Date, Venue, Name of Conference, Title of Presentation, Presenter, etc.)</p> <p>Hung-Hao Chang and Yessica Chung. “Recovery of Disaster Shocks – Lessen from Japan and Taiwan.” oral presentation in the seminar Department of Agricultural Economics, National Taiwan University. May 5, 2023. Presenter: Hung-Hao Chang</p>
<p>Thesis (Name of Journal and its Date, Title and Author of Thesis, etc.)</p> <p>None</p>
<p>Book (Publisher and Date of the Book, Title and Author of the Book, etc.)</p> <p>None</p>