

**博士論文審査結果報告**  
**Report on Ph.D. / Doctoral Dissertation Defense**  
**MSME National Graduate Institute for Policy Studies (GRIPS)**  
**Professor Alistair Munro**

審査委員会を代表し、以下のとおり審査結果を報告します。

On behalf of the Doctoral Thesis Review Committee, I would like to report the result of the Doctoral Dissertation Defense as follows.

学位申請者氏名 Ph.D. Candidate	Cherry Ann Dulay Madriaga		
学籍番号 ID Number	PHD16402		
プログラム名 Program	GRIPS Global Governance Program (G-cube)		
審査委員会 Doctoral Thesis Review Committee	主査 Main referee	MUNRO, Alistair	主指導教員 Main Advisor
	審査委員 Referee	WIE, Dainn	副指導教員 Sub Advisor
	審査委員 Referee	高木 佑輔 TAKAGI, Yusuke	副指導教員 Sub Advisor
	審査委員 Referee	城所 幸弘 KIDOKORO, Yukihiro	博士課程委員会委員長代理 Acting Chairperson of the Doctoral Programs Committee
	審査委員 Referee	Dr. PORIO, Emma E. School of Social Sciences, Ateneo de Manila University	外部審査委員 External Referee
論文タイトル Dissertation Title (タイトル和訳)※ Title in Japanese	"Living with Floods: Perspectives of Micro, Small, and Medium Enterprises in Marikina City, Philippines" 洪水と共に生きる—フィリピン共和国マリキナ市の中小マイクロ企業の 事例研究		
学位名 Degree Title	博士（国際開発研究） / Ph.D. in International Development Studies		
論文提出日 Submission Date of the Draft Dissertation	2021 年 8 月 20 日	論文審査会開催日 Date of the Doctoral Thesis Review Committee	2021 年 9 月 29 日
論文発表会開催日 Date of the Defense	2021 年 9 月 29 日	論文最終版提出日 Submission Date of the Final Dissertation	2021 年 11 月 4 日
審査結果 Result	<div style="display: flex; justify-content: space-around; align-items: center;"> <span style="border: 1px solid black; border-radius: 50%; padding: 5px;">合格 Pass</span> <span>不合格 Failure</span> </div>		

※ タイトルが英文の場合、文部科学省に報告するため、和訳を付してください

Please add a Japanese title that will be reported to MEXT.

## 1. 論文要旨 Thesis overview and summary of the presentation.

The resilience of a society is based on its ability to cope with shocks, such as natural disasters. When disasters interrupt power and mobility, households have to rely on buffer stocks of food, water or other essentials. These stocks can either be located in the household itself or held as emergency goods by local government, or they can be held by local retailers and business as part of their regular inventory. Thus the ability of a community to ride out disasters is enhanced when small retailers are still able to trade in the wake of a shock and consumers are still able to access local stores.

Now, the role of small businesses in supplying resilience in the face of natural disasters has been neglected. The aim of this dissertation is to help remedy that research gap. To that end, the candidate designed and managed a survey of small and micro businesses in low income areas of Manila. The questionnaire focused on the costs to the business from flooding, their coping strategies, perceptions of risk and social networks. As the frequent floods in parts of Manila are already exacerbated by climate change, which is raising sea-levels and altering patterns of rainfall and extreme weather events, the choice of location is apposite. One of the sub-city locations selected is low-lying and highly susceptible to flooding, while the other rarely has to face the problem of floodwater.

For the first main chapter, Chapter 3, the objectives were to identify the impacts of flooding focusing both on the direct and indirect consequences of flooding; and determine the factors that affect flood damage using regression models. This chapter shows that Micro, Small, and Medium Enterprises (hereinafter referred to as MSMEs) typically suffer from damages because of the physical impact of flooding on the premises and business facilities and content, like inventory and equipment, found in the establishments. However, MSMEs can be physically unscathed but still feel the effects of flooding through its market—its consumers, suppliers, and employees. A decrease in consumer traffic was one of the primary reasons why the enterprise experienced dwindling sales.

To be able to recover once they are hit by a calamity and incur damages and losses, MSMEs should know how to protect themselves and reduce their risks. The second main chapter, Chapter 4, addresses the implementation of disaster risk reduction measures and the role of flood experience, social capital, risk perception, and perceived preparedness on an MSMEs' intention to adopt DRR programs. To analyze the relationship among these variables, Protection Motivation Theory (PMT) was used as the main conceptual framework and the theory was applied and estimated primarily through Structural Equation Modeling (SEM), which is a statistical model for dealing with situations where many variables may influence one another, possibly through latent constructs. The results demonstrate how unprepared enterprises are in protecting themselves against flooding as well as other natural hazards. A large portion of them do not have business continuity plans or insurance. Meanwhile, flood experience and

perceived preparedness have a positive relationship with willingness to insure and willingness-to-pay for insurance. Moreover, obtaining information about flooding and insurance from their social networks affects MSMEs willingness to purchase insurance.

The general lesson from this dissertation is to emphasize the importance of studying MSMEs in disaster research. Furthermore, it underscores the need for national and local government to craft plans that integrate MSME development and disaster, especially detailing physical and financial support. The study also stresses community-based disaster risk management along with the usual top-down approaches, acknowledging the role of the community and its members including MSMEs.

The candidate presented the dissertation over Zoom to the committee for 45 minutes and then faced a further 45 minutes of questions and comments.

## **2. 審查報告 Notes from the Doctoral Thesis Review Committee (including changes required to the thesis by the referees)**

In the committee meeting held via Zoom immediately after the defence, the dissertation received a median vote of 5. The members of the committee suggested a number of changes to the dissertation to improve the exposition, and make the chapters more acceptable for publication in academic journals. Among the many suggestions for improvement were:

- A more thorough discussion of the endogeneity issues, along with the use of Anderson-Rubin tests, given that the instruments are weak.
- A lengthier discussion of the measures of the costs created by flooding.
- A more careful exposition of the rather complicated SEM
- Elaboration on the concept of social capital in chapter four.
- Bringing the policy recommendations into line with the evidence presented in the dissertation.

The Main Referee undertook to supervise the corrections.

## **3. 最終提出論文確認結果 Confirmation by the Main Referee that changes have been done to the satisfaction of the referees**

On 28<sup>th</sup> October 2021, the candidate sent the revised dissertation to the main examiner along with a document identifying where in the dissertation changes had been made in response to the requests of the referees. After a few further revisions to the dissertation, the main examiner was satisfied that the dissertation met the requirements of the referees.

#### 4. 最終審查結果 **Final recommendation**

The doctoral thesis review committee recommends that GRIPS award the degree of Ph.D. in International Development Studies to Ms. Cherry Ann Dulay Madriaga.