

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

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	Usman Asghar		
学籍番号 ID Number	PHD16407		
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	山内 慎子 YAMAUCHI, Chikako	主指導教員 Main Advisor
	審査委員 Referee	LITSCHIG, Stephan	副指導教員 Sub Advisor
	審査委員 Referee	CHEY, Hyoung-kyu	博士課程委員会委員長代理 Acting Chairperson of the Doctoral Programs Committee
	審査委員 Referee	黒崎 卓 (一橋大学経済研究所 教授) KUROSAKI, Takashi (Professor, Hitotsubashi 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	"HOW DO RAINFALL SHOCKS AFFECT RURAL HOUSEHOLD WELFARE, LABOR SUPPLY AND MIGRATION DECISIONS?"  豪雨災害は労働供給行動や厚生にどう影響するか? : パキスタン農村部におけるパネルデータを用いた実証研究		
学位名 Degree Title	博士 (政策研究) / Ph.D. in Advanced Policy Studies		
論文提出日 Submission Date of the Draft Dissertation	2021年6月28日	論文審査会開催日 Date of the Doctoral Thesis Review Committee	2021年7月26日
論文発表会開催日 Date of the Defense	2021年7月26日	論文最終版提出日 Submission Date of the Final Dissertation	2021年8月19日
審査結果 Result	合格 Pass		

※ 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.**

This thesis examines the impact of rainfall shocks on household welfare measured by income, consumption and savings, as well as labor supply decisions such as whether individuals are engaged in farm work and whether they migrate for work. Given the recent increase in the number of natural disasters worldwide, this is an important issue to be addressed. While existing studies in the literature have mostly used subjective responses in household surveys as the measure of exposure to rainfall shocks, Osman uses more objective, satellite image data from the NASA for the amount of rainfall. This allows him to provide more reliable estimates for the impact of exposure to rainfall shocks on the outcomes. Also, since he combines the satellite data with the longitudinal household survey data for rural Pakistan, he is able to compare the results based on both subjective and objective measures for exposure to rainfall shocks, which turn out to be quite similar to each other. In addition to these methodological advantages, his data enables him to investigate the impact on a comprehensive set of outcomes. These are likely to be significant improvements over the existing studies.

The results suggest that extraordinary amounts of rainfall reduce crop income, which accounts for the major part of the total income. However, since affected households used their savings and sold their livestock, the amount of food consumption did not change and the amount of non-food consumption increased (for repair and medical care mainly). These findings suggest that households in rural Pakistan can smooth consumption using their assets to cope with weather shocks. He also investigated how adults changed their jobs as their crops were damaged. There is weak evidence suggesting that farm related work was reduced while migration as well as remittances slightly increased. This shift towards non-farm activities is likely to have served as another coping strategy (in addition to de-saving) after weather shocks.

In addition, it is shown that communities that were located near a market or railway station were less likely to suffer from the negative effects of the rainfall shocks, and those households that initially had relatively larger amount of savings or landholdings were less likely to be affected by the shocks. Similar heterogeneity analysis reveals that those individuals whose original households did not have a good access to urban areas were more likely to migrate for work and send remittances back home.

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

Among the members of the doctoral thesis review committee, there was a general consensus about the value of the study. The members also shared the same impression that that both the dissertation and the presentation at the defense were well-organized and clear.

The members made several critical questions and comments as follows:

1. Can the dissertation elaborate a little further on why it focused only on floods and did not include droughts?
2. Basic sampling scheme of the household survey needs to be discussed.
3. Advantages and disadvantages of using the subjective and objective data need to be discussed in more detail.
4. Whether there was selective attrition needs to be analyzed.
5. The current analysis of job choice is done at the individual-level, but it would be better to include the household-level analysis.
6. The current analysis of job choice interprets both linear and non-linear models with an equal weight on them. However, it would be better to consider the linear model as a preferred specification.
7. Interpretation of the heterogeneity results regarding the distance to the railroad station in

terms of relative ease of daily commuting might be unrealistic. It would be better to consider alternative explanations.

8. Escandar (2018) is a very relevant article, and thus it would be better to discuss the differences in the results between this study and the current study

9. It would be interesting to separately investigate the effects of a very severe rainfall shock and a moderate shock on the outcomes

The members of the committee reached conclusions that the dissertation is already of satisfactory quality. While a number of suggestions are provided above, they are for the purpose of improving the study for publication. Thus, the members agreed that the chair of the committee guide the revision of the study for the final draft of the dissertation.

**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**

Osman addressed each of the comments provided by the referees in the three weeks after the defense. Necessary information has been added and new sets of analysis results have been incorporated into the dissertation. The main adviser checked the revised version and told the candidate add a few minor revisions. On August 19, 2021, the final version was submitted and the main adviser found it satisfactory.

**4. 最終審查結果 Final recommendation**

The doctoral thesis review committee recommends that GRIPS award the degree of Ph.D. in Advanced Policy Studies to Mr. Usman Asghar.