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研究課題名(和文) Building a New Paradigm of Disaster Management for Foreign Residents: a Cross-National Study of Japan, the United States, Australia and Canada

研究課題名(英文) Building a New Paradigm of Disaster Management for Foreign Residents: a Cross-National Study of Japan, the United States, Australia and Canada

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研究成果の概要(和文)：この研究は、日本の外国人居住者に対する災害準備の課題に取り組んだ。有益な提案は国際セミナーや出版物を通じて広まった。調査の結果を支持するために、参考データベースが作成された。日本の現地調査と国際的な経験の総合から、日本に特化した実用的な提言が導かれた。主な結果は以下の通り：1) 日本の外国人居住者は日本語に完全に依存せず、追加のアウトリーチ手法が必要。2) 外国人コミュニティの災害準備は、バックグラウンドや文化によって異なる。低い準備度のコミュニティを対象にすることで、資源配分を最適化できる。3) 事前のトレーニングは準備度と関連があり、ドリルを通じて外国人居住者を参加させることが重要。

研究成果の学術的意義や社会的意義

The team addressed challenges in disaster prep for foreign residents in Japan, providing valuable recommendations to Aichi. Studies identified effective strategies. Practical recommendations were devised based on international experiences, improving support for foreign residents during disasters.

研究成果の概要(英文)：This research addressed disaster preparation challenges for foreign residents in Japan. Recommendations were developed and distributed through international seminars and publications. A reference database was developed to support findings from surveys and interviews. Practical recommendations specific to Japan were derived from a synthesis of Japanese fieldwork and international experiences. Findings: 1) Foreign residents in Japan don't rely solely on the Japanese language; additional outreach methods are needed. 2) Varying disaster preparedness exists among foreign communities due to backgrounds and cultures. Targeting lower-preparedness communities optimises resource allocation. 3) Prior training correlates with preparedness; engage foreign residents through drills. The project filled a critical research gap, focusing on socially disadvantaged foreign residents and providing insights for governments to enhance support and promote safety and participation following a disaster.

研究分野：Public Administration and Emergency Management

キーワード：Emergency Management Migration Community Resilience Preparedness Vulnerable Groups

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1. 研究開始当初の背景

International migrants and ethnic minorities are more vulnerable to the effects of natural disasters than the general population. As people move around the world more than ever before, they may come to live in unfamiliar areas where they are vulnerable to earthquakes and other types of disasters. A growing body of academic literature suggests that ethnic minorities and immigrants are socially vulnerable populations. A socially vulnerable population is a group of people at increased risk of experiencing adverse outcomes due to their social and economic circumstances. They often face barriers to accessing resources and services, including education, healthcare, and job opportunities. A growing literature suggests that natural disasters are also more likely to affect them. For example, several studies on the effects of Hurricane Katrina in New Orleans show that poorer African American neighborhoods were especially impacted. As a result of their status, socially vulnerable populations are more likely to experience poor health outcomes, lower life expectancy, and worse quality of life.

We argue that many, though not all, foreign nationals in Japan are a socially vulnerable population that faces a higher risk of experiencing adverse outcomes due to disaster because of social and economic circumstances. Many foreign nationals face social isolation while living in Japan, partly for linguistic and partly for cultural reasons. This means that they may not be aware of the hazard profile of the area where they live. This is especially important for a country such as Japan, where earthquakes and typhoons are a common occurrence. The prefectures and city governments must address the needs of foreign residents through targeted disaster preparedness policies and programs to ensure equal access to resources and opportunities. However, few empirical studies have identified how governments try to communicate disaster risk to foreign residents or the factors that influence the decision of foreign residents to prepare for disaster. As observed during the Great Eastern Japan Earthquake in 2011, many foreign residents were not only confused but expressed distrust of messages coming from Japanese government bodies.

2. 研究の目的

The primary purpose of this project was to determine how governments vary in their policies and programs for communicating disaster preparedness and disaster response for ethnic minorities and immigrants. Previous research suggests that governments lack incentives to invest in disaster preparedness because voters do not reward them for these types of policies. Logically, they should be even less willing to invest in disaster preparedness targeting ethnic minorities and immigrants, many of whom do not vote. However, some governments are still making efforts to support the disaster preparedness of socially vulnerable populations. We sought to understand how and why.

The secondary purpose of the study was to identify the factors associated with the level of disaster preparedness of immigrants at the individual level. By determining the key factors that influence the probability that a non-citizen will take action to prepare for a disaster, it may be possible to develop specific policies and interventions. Although the language barrier is undoubtedly an essential factor, we hypothesized that other factors also matter.

3. 研究の方法

Although we originally proposed to conduct a comparative analysis of the efforts to help immigrants and ethnic minorities prepare for disaster in cities in Canada, the United States, Australia, and Japan, this became difficult during the COVID-19 pandemic. The government officials directly involved in responding to the crisis were the very people we wanted to interview. As a result, we deemphasized the comparative aspect of our research and focused on Japan, where we could collect data more realistically.

To examine the different disaster policies for foreign residents, we compared Tokyo and Japan's 21 designated cities. We conducted a content analysis of their websites to find information about the different programs and policies of each city. The content analysis was supplemented by interviews with CLAIR officials in Tokyo about the issue of disaster preparedness for foreign nationals.

To identify the factors that influence disaster preparedness among foreign nationals at the individual level, we negotiated with the City of Nagoya to use data from their survey of foreign residents. This data set was representative of legally registered foreign residents living in Nagoya in 2015. This is a significant improvement over previous studies on disaster preparedness among foreign residents in Japan that used convenience sampling. We conducted several multivariate regression analyses of the data to test several hypotheses about why some foreign nationals are more likely to be prepared for disaster than others.

4. 研究成果

Regarding Japanese cities, we found that their efforts to encourage disaster preparedness among foreign residents vary. Some cities make strong efforts to communicate with their foreign resident population, while others rely only on machine translation of their website. Japanese cities with large foreign populations, such as Hamamatsu, Nagoya, and Tokyo, are more likely to provide more detailed information about disaster preparedness for foreign populations, such as multilingual hazard maps. Cities with specific disaster profiles, such as Sapporo, were also found to provide more information on their websites.

One weakness of Japan's disaster preparedness programs for foreign nationals is that they often treat foreigners as a homogeneous group. But today, it is clear that this group is highly diverse. The level of awareness by government officials of the needs of the various types of foreign residents varies from city to city. For example, a fundamental assumption among most local governments is that language is the main barrier to disaster preparedness. However, many foreign nationals who stay in Japan speak fluent Japanese yet remain underprepared for disaster.

Our analysis of individual foreign residents suggests that 1) Foreign residents in Japan do not rely solely on the Japanese language; additional outreach methods are needed. 2) There is variability in disaster preparedness among foreign communities due to socio-economic backgrounds and cultures, so targeting communities of lower preparedness should optimize resource allocation. 3) Prior disaster training by neighborhood associations is positively correlated with preparedness, so foreign residents should be encouraged to participate in drills.

At the individual level, we argue that social networks play an essential role in determining the extent to which a person prepares for a disaster. Cultural background seems to be especially important. Members of ethnic groups where social capital bonds are strong, such as Filipinos, were more likely to be prepared for disasters. Meanwhile, people from some countries may have different levels of trust in government warnings. In contrast, others might assume that the responsibility to protect them from disaster lies solely with the government. Foreign residents have agency and can take responsibility for their own preparedness. But many people may not trust what the government says, and so they may prefer to rely on social networks from their own ethnic groups to provide advice and support. Governments should therefore target leaders in particular ethnic communities to disseminate information about disasters. Foreign nationals should also be invited to work as volunteers in post-disaster circumstances because this may create a sense of social belonging in Japanese society.

As the COVID-19 pandemic showed, communicating risk to a diverse population is no simple matter. More research is needed on how governments can develop messages to reach an increasingly diverse and expanding population of foreign residents. The project filled a critical research gap, focusing on individuals with lower socio-economic status than the general population and providing insight for governments to improve support and promote safety and participation after a disaster.

The recommendations were developed and distributed through international seminars and publications. A reference database was developed to support the findings of surveys and interviews. We disseminated our results at conferences in Japan and Canada. Two presentations were given at the Japan Association for Migration Policy Studies (JAMPS) conferences at Nanzan University and Nagasaki University. The results were also presented at the Japan-Canada Studies Association in Toronto in 2017. Academic publications included a peer-reviewed article in the *Social Science Japan Journal* and a chapter in the edited volume Lukasiewicz, A., & O'Donnell, T. (Eds.). (2022). *Complex Disasters: Compounding, Cascading, and Protracted*.

Along with academic audiences, we also disseminated information to policymakers in Japan and abroad using peer-reviewed online journals, including *East Asia Forum*, *East Asia Forum Quarterly*, and *Policy Forum*.

Finally, we provided a written report to report to the city of Nagoya in Japanese, summarizing our analysis of the foreign resident survey data.

5. 主な発表論文等

〔雑誌論文〕 計10件（うち査読付論文 6件 / うち国際共著 9件 / うちオープンアクセス 8件）

1. 著者名 David Green, Justin Whitney and Matthew Linley	4. 巻 March
2. 論文標題 Bolstering disaster preparedness among Japan ' s foreign residents	5. 発行年 2022年
3. 雑誌名 East Asia Forum	6. 最初と最後の頁 Online
掲載論文のDOI (デジタルオブジェクト識別子) なし	査読の有無 有
オープンアクセス オープンアクセスとしている (また、その予定である)	国際共著 該当する
1. 著者名 Justin Whitney	4. 巻 Vol.13 No.3
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3. 雑誌名 East Asia Forum quarterly (ISSN 1837-509X)	6. 最初と最後の頁 28-29
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1. 著者名 GREEN David、LINLEY Matthew、WHITNEY Justin、SANO Yae	4. 巻 24
2. 論文標題 Factors Affecting Household Disaster Preparedness Among Foreign Residents in Japan	5. 発行年 2020年
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2. 論文標題 2018 Emergency Preparedness Report (WA State Government)	5. 発行年 2018年
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1. 著者名 David Green	4. 巻 0
2. 論文標題 Foreign Faculty in Japan	5. 発行年 2019年
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掲載論文のDOI (デジタルオブジェクト識別子) なし	査読の有無 有
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〔図書〕 計1件

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2. 出版社 PALGRAVE MACMILLAN	5. 総ページ数 25
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〔産業財産権〕

〔その他〕

研究・教育プロジェクト
<https://cale.law.nagoya-u.ac.jp/research/building-a-new-paradigm-of-disaster-management-for-foreign-residents-a-cross-national-study-of-japan-the-united-states-australia-and-canada>

6. 研究組織

	氏名 (ローマ字氏名) (研究者番号)	所属研究機関・部局・職 (機関番号)	備考
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研究分担者	Green David (Green David) (90706813)	名古屋大学・法学部・准教授 (13901)	

7. 科研費を使用して開催した国際研究集会

〔国際研究集会〕 計1件

国際研究集会	開催年
Household Disaster Preparedness for Migrants in Japan 20-21 Dec 2018	2018年～2018年

8. 本研究に関連して実施した国際共同研究の実施状況

共同研究相手国	相手方研究機関